



THE CULTIVATOR.

THIRD

To Improve the Soil and the Mind.

SERIES.

VOL. II.

ALBANY, JULY, 1854.

No. VII.

What Time shall we Cut Timber?

Never in winter, but always in summer. It should be cut during the most rapid season of growth, and while that season is drawing towards a close. The same rule should be followed that skillful nurserymen observe in performing the operation of budding—that is, just as the *terminal bud* on each branch begins to form—as soon as it is first evident that the growth of the branch is about to terminate, but is *still in active progress*. Experienced tree-propagators have found that much earlier than this, the juices of the tree are in too thin or liquid a state to form a good adhesion between the bud and the peeled surface. From the moment that the bark separates freely from the wood, these juices continue to thicken, until growth ceases altogether and the new wood is completely formed; and when this new wood is in the state of a thick paste or cement, then is the time that the bud will adhere most perfectly. This is the period when the bark may be peeled from a tree without destroying its vitality. And this is the time for cutting timber. Early in spring, the tree is full of sap, which is little else than pure water, and which has been gradually accumulating through winter by the absorption of the roots, with no outlet for its escape, as there is in summer through myriads of leaves. While the tree is thus replete with water, it is in the worst condition to be cut. But towards midsummer, when a portion of this water has passed off through the leaves, and the rest has been much thickened by conversion into material for wood, the case is very different; for while the watery sap promotes only decay, the thickened juices soon dry and harden, and assist in the preservation of the wood.

We have recently been furnished with a number of facts, in corroboration of this opinion, by ISAAC HATHAWAY, of Farmington, Ontario county, N. Y., an old and enterprising settler, a close and extensive observer, and who has had much experience in connexion with saw-mills and timber erections. All his observations tend to show the great difference between winter and summer cut timber, and induce him to think that, cut at the best period, it will last under the average of circumstances three times as long as when felled in winter. In one instance, a fence, consisting of winter-

cut materials, a part split into rails, and a portion in round poles, of beech, maple, iron-wood, bass-wood, &c., had completely decayed in fifteen years, and none of it was even fit for fire-wood. In another case, a quantity of bass-wood rails were cut in summer, and split from the brown or heart portion of the tree. This was done about fifty years ago; thirty years afterwards the fence was quite sound, and even now some of the same rails remain undecayed, although much worn away by the weather. Winter saw-logs, left over one summer at the mill, are usually much decayed for several inches towards the interior; summer-cut logs, which have lain a like period, are always sound. He has cut hickory for axe-helves; if done in winter, decay soon commences, and the worm which loves this wood, often wholly destroys its value. Summer-cut, he has never known it to be attacked by the insect, and indeed it seems too hard for them to penetrate. He has had occasion to examine several old frames of buildings, and in every instance where the period of cutting could be determined, the same striking difference in durability was conspicuous.

He related several experiments on the durability of posts, one of which is worthy of repetition. In a gravelly soil, where the water never remains, a stone bottom a few inches thick was laid in the post-hole, on which the post was set, and was then surrounded with stone closely rammed in on every side. As a consequence, the water never remains long enough in contact with the post to soak its interior, as would be the case if damp earth passed its outer surface. Such posts consequently give promise of remaining sound, after some years trial, at least twice the period of those simply packed in earth. He also finds that posts of what is termed the white cedar in western New-York, (the American arbor-vitæ) last much longer when set green with the bark on, than if sawed and seasoned, which he attributes to the protection afforded by the durable bark, against the vicissitudes of rain and drouth, and the air and weather generally.*

Now that the season is approaching, best adapted for timber-cutting, as indicated in the preceding remarks, we hope those interested will at least satisfy themselves on the subject by a fair and careful trial.

* In ordinary instances, however, above ground, the bark by preventing seasoning, only accelerates decay.

**The Laws of Alimentation,
AS APPLICABLE TO SHEEP HUSBANDRY.**

"It costs no more to produce fine than coarse wool."—J. VAN BUREN, *Clarksville, Ga.*

"By an irrevocable law of nature, small sheep consume no more food, according to their weight, than the larger breed."—J. W. COLBURN, *Springfield, Vt.*

"A few facts in Wool-Growing are conclusively settled, viz:—All animals require food according to their live weight, and a like quantity of food will produce an equal quantity of clean wool upon all sheep raised for the value of their fleece."—JOSEPH PARKER, *West Rupert, Vt.*

"The expense of keeping large and small sheep is in proportion to their weight."—T. WENDELL, *Farmington, Ct.*

"Sheep at maturity require food according to their weight; and, other things being equal, we may expect about an equal return, whether the animal be large or small."—GEORGE CAMPBELL, *West Westminster, Vt.*

"By a universal law, the larger animal, of the same species, consumes a proportionably larger amount of food."—H. S. RANDALL, *Cortlandville, N. Y.*

"It takes an equal amount of food to produce a pound of flesh or wool, without regard to the size of the sheep, and the same food that will produce a pound of coarse wool, will produce a pound of fine."—H. C. W., *Co. Gent. of April 20.*

This somewhat formidable array of quotations, if it does not prove what is asserted, does at least prove that the opinion is common—

First—That the size of a sheep is the measure of the food it requires; and

Secondly—That the food consumed by a sheep, is a measure of the flesh, fat, or wool produced.

If these propositions are true of sheep, they are equally so of other animals, and the subject is of the greatest importance to every farmer. If true, the business of stock breeding is certainly much simplified. The selection of stock needs no skill, if the income from it is a matter of fore-ordination, which no stupidity can diminish, nor the greatest skill, intelligence, or taste, increase. If the income from animals is thus fixed, there can be no hope of change for the better. Agricultural progress is impossible, fogginess is wisdom, and improvement a humbug.

The gentlemen whose names have been quoted, must not infer a want of respect, but give me credit for honesty, when I express the full conviction, that these two propositions contain as much and as dangerous error as can be expressed in so few words.

It is proposed to show the fallacy of these two propositions, in their order.

First—The food which a sheep requires is not in proportion to its size.

The amount of food which a sheep requires, is affected,

1. By respiration.

In breathing the sheep receives oxygen and gives out carbon. Of all the food of the sheep, one-half is carbon; and of this, more than one-half is consumed in the fire of respiration. Thus more than one-fourth of all the food is used to keep the machine in motion. The quantity of food so used, depends not on the size of the animal, but on the amount of respiration; and this is affected by the degree of perfection in the lungs and by external causes, as exercise. In violent labor more food is required, because more is consumed in breathing. Respiration is affected by climate. In

cold weather, more oxygen is inhaled and more carbon expired; so in hot climates, less food is used; while in the cold regions of the poles, the quantity consumed is enormous. We have here one-fourth of the food consumed in a manner not necessarily connected with the size of the animal.

2. The amount of food required, is affected by the absolute waste.

A portion of the food of animals, greater or less in different individuals, does not enter into the circulation at all, but passes away undigested, from the system. The amount of this waste depends on the condition of the organs of digestion, and not on the size of the animal.

3. The amount of food necessary, depends on the natural waste from the substance of the body.

The bodies of animals are constantly changing. Small portions are constantly passing off, and their places filled by secretions from the blood. In this manner, the whole substance of the body, including the bones, is supposed to change in from three to five years. More than half of all the food consumed by sheep, is applied to this waste, and carried off as excretions from the lungs, the skin, the kidneys, and the alimentary canal. The amount of this waste depends on the condition of these organs, and not on the size of the animal.

4. The amount of food which a sheep requires, is affected by the age of the animal.

Young animals require more food to supply a greater degree of activity in respiration, digestion and assimilation.

5. The amount of food is affected by the condition of the animal.

6. More food is required to supply certain drains from the system.

More food is required during gestation and lactation. Fine woolled sheep secrete from the skin, an oleaginous substance called yolk. This secretion increases as the condition of the animal; is constant, and in amount, reckoned by Yovatt, at one-half the weight of the fleece. It operates as a drain upon the constitution, which must be supplied with additional food.

All these circumstances have their influence in determining the amount of food which the sheep requires; and fully justify the position that it does not depend on size alone.

Second—The food consumed by a sheep, is not a measure of the product, in either flesh, fat, or wool.

The sheep may be considered an animal machine. The different kinds are machines for different purposes; one adapted to the production of wool, another of flesh or fat, and a third neither. If a certain quantity of food be given to these different animals, the products will differ as certainly as if a bushel of corn were fed to a corn mill, a starch machine and a distillery. The first two would produce equivalents, but of different kinds, while the third would waste all. The product in these cases, will depend in kind, upon the nature of the mill, and in quantity upon the perfection of the machinery. So in feeding the animal, the product will be flesh, fat, wool, or nothing, according to the nature of the animal, and the amount of either, according to the degree of perfection in the organization of the animal. More generally the product of machinery, whether it be a sheep or cotton mill, depends on the nature and perfection of the machinery, and not on the amount of material consumed, and still less on the size of the building which contains it.

It is a common opinion that all the elements of flesh, fat, and wool, contained in the food of sheep, will go to the formation of these products. Thus a writer, otherwise very intelligent, says, in the Patent Office Report for 1851, "every particle of food, containing the elements of wool, will be assimilated in such a manner as to increase its growth." Then, as a pound of dry hay contains the elements of a pound of wool, and each sheep consumes the equivalent of ten times its weight

annually, then sheep of one hundred pounds weight would produce annual fleeces of just half a ton each.

Some may be surprised at the assertion, that a ton of dry hay contains the elements, of a ton of wool. Here are the figures. One hundred pounds of hay and wool contain (omitting fractions) the following elements:

	Hay.	Wool.
Carbon,	50	50
Hydrogen,	6	7
Nitrogen,	3	17
Oxygen,	38	22
	97	96

The truth is that, of the elements of wool, contained in the food of sheep, not more than an average of one pound in three hundred, ever goes to the formation of wool. A small amount of the same elements go to the formation of flesh and fat; for the most unlike of these, viz., flesh and wool, are composed of the same elementary substances, and nearly in the same proportions. They contain respectively in one hundred parts:

	Flesh.	Wool.
Carbon,	51	50
Hydrogen,	7	7
Nitrogen,	15	17
Oxygen,	21	22
	94	96

The remainder of these elements go to supply those wastes described in the former part of this article. When it is proved that the average of sheep at maturity, appropriate to flesh, fat, and wool, less than one pound in a hundred of the elements of these substances received in their food, we are prepared to admit that some sheep may lose more than others.

A given amount of food will not produce like returns in the form of flesh, but the result will be affected by various circumstances, as, 1st, the age of the animal.

In the very young, a larger part of the food goes to the promotion of bones; and in the very old, a larger part is wasted. The old machinery becomes worn and imperfect.

2. It is affected by *climate*. A few ounces of rice form as much human flesh in China, as ten pounds of whale blubber near the poles.

3. It is affected by *action*. A sheep in constant exercise, will not make as much flesh from a bushel of corn as one lying at rest. Of two horses, one at rest and the other at hard labor, if fed alike, one may become fat and the other poor. Hence the practice of shutting animals up in the dark to fatten. It is on this principle that hibernating animals pass the winter in a semi-torpid state without food.

4. It is affected by the amount of intellect. The laboring brain consumes food as really as the working body, and the sheep with the smaller and less active brain, will form more flesh on a given amount of food, than the more active and intelligent.

5. The product of food is affected by temperament. This is more obvious, but no more real, in the human species. Of two men, one may have a low lymphatic temperament, in which the stomach predominates, and is the most active and important part of the system. The brain is small and indolent—the hair thin, soft and suety—the eyes dull and lead-like—the blood pale and thin, crawls through the veins with slow and languid pace, while the respiration, as slow as consistent with life, consumes but little carbon, and leaves much for the production of fat. The only organ of the brain which appears to have any thing to do is alimentiveness. In such a man, the brain, nerves, muscles and blood all rest, that the stomach may work. This man's evident destiny is to sit quietly—eat heartily—sleep soundly, and be fat. The other may have a high nervous temperament and an ever-working brain, whose fires, fed on all the combustibles of the system, send lightnings over the electric nerves and burning lava through the veins. The idea of fat on

such an organization, is absurd. It would be as rational to expect fat from feeding Cleopatra's mummy. In the first case, the food is used for the formation of flesh and fat; in the second, it forms neither, but is exhausted on the operations of the mind. Thus the same food might produce in one case fat, and in the other thought, between which those who believe that equal food gives equal products, must form an equation.

Such are some of the numerous causes which affect the demand for food and its products. But these circumstances do not affect all animals alike. Probably no two sheep ever had precisely the same organization, either in kind or perfection of mechanism. A slight defect in any part of the wonderfully complicated machinery, affects the result. A broken tooth—an imperfection in the minute gland which supplies the saliva—the least mistake of the stomach in the composition of the gastric juice—a slight inaction of the lacteals, or any one of ten thousand other imperfections of the animal machinery, would affect the result.

That sheep have their organizations both different in kind, also in the kind and degree of imperfections, is proved by observation and experiment. Every man who observes sheep, knows that of different kinds fed alike, one will produce more wool, another more flesh or fat, and a third neither. The same animal will not excel in the production of both *flesh and wool*. The reason seems to be that as both these products are composed of the same elements, those used to form one cannot at the same time be used to form the other. Hence the incompatibility of wool and mutton—the one must yield to the other. Some are so happily organized as to produce a fair quantity of both flesh and wool, but *excellence* in both is not to be expected.

From the deductions of philosophy and well established theory, we are compelled to conclude that animals do not consume food in proportion to their size, neither do equal quantities of food produce equal results. The subject might be safely left here as fully proved, and my task done, but fortunately reason and theory have in this case been fully sustained by *experiment*.

It has been proved by actual trial, that if a number of sheep be fed alike, some will have too much, others not enough, and perhaps no two give precisely the same result in either flesh, fat, or wool; and that the larger sheep may be so, not because it has taken more food, but because it has made a different use of it. The same has been observed among other animals. If two pigs, for example the Suffolk and land-shark, of different organization, but equal size, be fed alike, the former will leave a part of his food and become fat, while the other may consume all, and gain nothing. The difference is that one converts his food into flesh, while the other exhausts his in locomotion and noise.

So also among the human species, it is observable that size has very little connexion with quantity of food, and that those who consume most remain small, lean and hungry still. One who has had great experience in feeding animals, Col. SHERWOOD, says some where, that in feeding animals, "their size is no rule at all."

But the most satisfactory and decisive experiments on this subject, are those of J. B. LAWES, Rothamsted, England. The object of his experiments was to determine, with the greatest possible certainty, the different results from feeding different kind of sheep. The experiment was performed with large numbers of the various kinds, and continued during several years. They were conducted with the greatest care, and are worthy of careful study and entire confidence. Their practical value can scarcely be overrated. The result, so far as pertinent to this subject, was—

1. No two kinds of sheep consumed food according to their sizes.
2. No two kinds produced wool according to their food.

3. No two kinds increased in flesh according to their food.

4. They did not produce loose fat according to their food.

5. The Cotswold sheep gave a larger increase, from a given amount of food, than any other variety.

It appears then to be fully proved both by reason and experience, that the amount of food which sheep require, depends on the various causes specified, and not on size alone, and that the quantity of flesh, fat or wool, which a sheep will produce, is determined, not by the quantity of food consumed, but by the nature and perfection of the animal organization.

These general principles are equally applicable to all our domestic animals, and the obvious importance of the subject will justify or at least apologize for the length of this article. Its chief object is, to correct the common impression that agriculture is the appropriate sphere of dullness, and to show that, on the contrary, the selection and culture of a single class of animals alone, requires the most refined and correct taste, acute perception, large observation, careful study, and long experience.

If this article shall in the least aid in fastening this impression on the minds of the young farmers of our country, the writer will never regret that, in its preparation, even at this most busy season of the year, the pen has usurped the place of the plow. JOHN T. ANDREW. *West Cornwall, Ct.*

Nitrate of Soda—No. 2.

MESSERS. EDITORS—In addition to the synopsis which we have prepared of the experiments of Mr. PUSEY, with nitrate of soda and nitric acid, we herewith present you and your readers with some farther information on the same subject, gleaned from reports which we find in a foreign paper of late date. The following may be taken as a fair specimen of the effects of the application of nitrate of soda on pastures. Mr. MAIN of Mid Lothian, in a prize essay in the Transactions of the Highland Society 1853, gives the results of an experiment. In a field consisting of 15 acres, six years in pasture, nitrate of soda at the rate of 1½ cwt. per acre was applied. Previous to the application, "12 cows starved upon it." After being top-dressed, 13 milk cows, 5 young cattle, 3 colts, and at intervals 60 sheep were grazed upon it.

In a field which had been three years in grass, nitrate of soda, gypsum and other top-dressings were applied to different portions. That portion to which the nitrate was applied at the rate of 1 cwt. (112 lbs.) to the acre yielded an increase of 1½ ton over that portion which had no application, and also over that portion to which gypsum had been very liberally applied.

Other experiments equally favorable, have been reported from time to time for some years back, in British agricultural journals. In combination with guano, striking results have also been obtained; and it is usually from such a combination that the largest profits have been realized.

As a top-dressing to oats, nitrate of soda has produced results similar to those above alluded to on grass. One English farmer reports an increase of 16 bushels of oats over the product of a field undressed, and the gain at over \$10 an acre, after deducting the expense of the nitrate. On strong land this same experimenter

found that the result was barely sufficient to pay the cost of the nitrate.

A farmer in Derbyshire, top-dressed a field of 10 acres of heavy soil, on a clay bottom, with 1 cwt. of nitrate to each acre—one land excepted—and the result was an increase of about 16 bush. oats, and a corresponding increase in the amount of the straw. Estimated profit after deducting cost of nitrate about \$10 an acre.

It may be well to mention, however, that at the meeting of the Royal Agricultural Society of England on the 23d of March last, reported in the Mark Lane Express of March 27th, a communication was received to the effect that several comparative trials of nitrate and guano on oats, had led the writer to prefer guano. In one experiment he applied 1½ cwt. of nitrate on one portion, and 3 cwt. of guano on another. The oats top-dressed with the nitrate kept a bluish sort of color throughout the season, did not ripen equally, and were soft in the ear; while those which had guano ripened equally and had a harder, crisper ear, and weighed better. That the writer of this report was not prejudiced against the nitrate is evident from another part of his communication in which he states the results of an experiment made on a field of grass. On one portion of the field he applied 2 cwt. of nitrate and 1 cwt. of salt; on another portion 4 cwt. of guano, and on the remainder of the field no manure was applied. The nitrate gave about 3½ tons of hay per acre, the guano a little under 3 tons, and on the portion which had no manure the amount of hay was only about 1½ ton. Independently of the increased weight of hay from the nitrate, the writer prefers that manure for either old or new grass, as it appears to require but little moisture to fit it for reaching the roots of the plants. A strong dew in the course of one night appeared sufficient for that purpose; and in about 36 hours after its application the grass turned to a luxuriant dark green color, whereas the guano requires a good shower of rain to fit it for acting on the grass, and unless it gets such a fall of rain it does little good.

On barley the nitrate has been applied so as to yield very large profits—7 to 14 bush. of increase.

The experiments have been numerous with Wheat. From various reports we note the following amounts of excess of dressed over undressed portions of a field.

1st,.....	4 bushels 2 pecks.
2d,.....	5 do. 2 do.
3d,.....	6 do.
4th,.....	10 do.
5th,.....	12 do.
6th,.....	13 do.
7th, The amount of excess not stated: the yield, however, 65 bushels per acre.	

When nitrate of soda has failed to do good, it has been owing probably, either 1, to the article not being genuine; 2, to being applied at an improper season; or 3, to its having been applied to land so high in condition that nitrogenous manures proved injurious by producing too luxuriant a growth of straw. *

A box 8 inches by 8 inches square, and 4-2 inches deep, will contain one gallon.

Gypsum and Ammonia.

Messrs. Editors—As the time of making compost is at hand, and the use of gypsum as one of their ingredients, has lately been decried, I take the liberty of giving you the substance of the results of some experiments recently made, bearing upon that point.

It is well known to the most of farmers, that during the decay of animal and vegetable matter, a quantity of ammonia is found which from its volatile nature is very liable to evaporate, or pass away in the atmosphere, very much to the deterioration of the value of the substance as a fertilizer, for ammonia is a very beneficial manure. The form in which it flies away, is generally that of carbonate of ammonia, a very volatile pungent salt known under the name of hartshorn. Various means have been suggested and used to fix this, that is, to render it less volatile and keep it in the material in which it is formed for the purpose of using its valuable compounds as fertilizers. A common way has been to mix gypsum (sulphate of lime) with the material used in compost heaps, when a mutual decomposition takes place, in which carbonate of lime and sulphate of ammonia was formed. This last salt is much less volatile than the other compound of ammonia mentioned, and is therefore more easily retained in the heap. It has recently been denied in a scientific journal, that this change does take place—that dry or nearly dry carbonate of ammonia will decompose and be decomposed by gypsum, and therefore that it would not fix the ammonia, and that its addition to other manure, added to its value, only by its own ingredients—not by saving other valuable products. This statement has been copied in several popular newspapers, and if incorrect should be refuted, as it pretends to be based upon the unerring laws of chemistry.

I took three samples of gypsum, (the common, such as is used here by the farmers,) and treated them with carbonate of ammonia in different ways, imitating the condition of the compost heap. The first I moistened slightly after mixing the two together, not making them more damp than they would be in a heap of compost.

The second I left dry as they were mixed.

In the third, I did not allow the two to come in contact, at all, but kept them separated, so that to unite, the carbonate of ammonia must come in contact with the gypsum as it evaporated.

In all three cases, I exposed them a few days to air mixed with carbonic acid (conditions always present in the compost heap,) at the ordinary temperature of my room, and then exposed them to the pure air until the carbonate of ammonia had all been decomposed (or evaporated,) and afterwards examined them chemically. In all cases a mutual decomposition had taken place. The gypsum (which was originally present in the largest quantity,) contained much carbonate of lime, and a corresponding (apparently so at least,) amount of sulphate of ammonia was present in the mixture, which I separated by chemical means, and examined.

As I have remarked, the gypsum was present in excess, and so it should be in the compost heap,—that is, there should be more than enough present to decompose all of the ammoniacal compound. Otherwise there will be some that will escape, and undoubtedly a small quantity always does escape, not coming in contact with anything which will retain it, for it is difficult to have such substances thoroughly mixed thro' the mass.

I think these experiments show that the use of plaster, or gypsum, for this purpose, is founded on sound principles, and consequently are safe to follow. Such experiments have been frequently made by others, and I intend if possible, the coming summer to carry on these further, and see if such changes do actually take place in fermenting and decaying barn-yard manure, the result of which you shall have, if you think them worth your attention. Yours truly, WM. H. BREWER.

Stumps and Simple Stump Machine.

Messrs. Editors—In your paper of the 27th, is an article on the decay of stumps, which I cannot allow to pass without having a kick at it. Stumps should never be induced to rot above ground, but below; nor with the exception of sugar tree, should fire ever be applied to them. In clearing, all trees less than two feet in diameter, should be cut 18 inches from the ground, and the edges of the stump nicely bevelled with the axe, so that the doubletrees in plowing may slide freely over them. If the earth is kept well dug with the mattock, and soft about them, the roots will decay in a few years, so as to admit of their easy removal. Very large trees need not be cut so low, because it is impossible for the team to straddle them; and it is best to have them so high that your horses will not attempt that feat, if the driver should be so careless as to permit them. An easy mode of producing rapid decay in large stumps, is to split them by blasting with powder, thus admitting the rain and melted snow to penetrate to their main or tap roots.

The cheapest and most convenient stump machine for the farmer's use, consists of a stout pole 18 or 20 feet long, and a very strong log chain with which to fasten one end of the pole to the stump. A yoke of oxen hitched to the other end and driven around, soon twists the stump out of its bed. Occasionally some digging and cutting of roots will be necessary to facilitate this last operation; but if stumps are properly grubbed about, in the first plowing of the ground, they can be taken out when the ground is soft, in the spring or autumn, with very little trouble. PAUL A. WAY, Sewickly Valley, Pa.

PLANT A TREE.—As an encouragement to every body to plant a tree, the *Prattsville Advocate* states that there is now standing near Grace Church in that village, a tree which was planted by three little boys forty-four years ago this spring, which measures thirteen feet in circumference and is estimated to contain four cords of wood. One of the boys who helped to plant this tree, still lives in the village.

Clearing and Seeding New Land.

MESSRS. EDITORS—In the 93d page of *The Cultivator* of this year, we had your answers to queries proposed by "Novice," of Pine Grove, Ohio, and having had some experience in clearing new land, let me give a few thoughts on the subject; not that I expect to give any new light, but to do my part in circulating a knowledge of each other's experience, and to call out light from others.

1. If the inquiry should be the cheapest and most expeditious mode of bringing new land, whether bottom or upland, into grass for mowing or pasture, I should say, if the timber be large, to deaden the land by girdling the useless timber in June, July and August, while the sap is in full flow, and the leaves are out. The small stuff should then be cut down, cut up and thrown into as few and compact heaps as possible, and burnt in September. The land may be sown to wheat in October, and grass in March, or the grass seed may be put in with the wheat in Oct. Don't be small and stingy about the grass seed, but put on at least 12 quarts of timothy and four of clover, or 16 quarts of timothy alone; and about the harrowing, whenever your neighbors say, "hold, it is enough," then go over it as thoroughly again, and you will get the ground into so fine a tilth, that you will get a great crop of grain and grass. If you undertake to cheat the earth at this stage of the business, it will cheat you. If preferred, the land may be sown in as thorough a manner to oats and grass the next spring after girdling. Instead of oats it may be put into corn, after as free a harrowing as we have before mentioned; and with two good hoeings, the land may be brought into a good clean condition to put into wheat, by cutting up the corn in the first of Oct., and setting it up around the large stumps, or hauling it off and setting up along the fences—then sowing to wheat the last of Oct., and stocking down the next spring. This girdling is said by those that have tried it, to be very beneficial to all soils, a clay soil in particular, for the soil yields easier to the plow, and is far more productive than lands that have had all the timber taken off in a green state. I refer now to the first cultivation after clearing. Again the roots of a tree girdled and left standing, will not resist the plow so long as the roots of the stump of a tree cut when green, by at least three years.

The next summer after this girdling, even if no grain crop is put on, a hay crop of from one to two tons per acre can be taken, if the ground in some dry time has been gone over with this very free harrowing and no cattle are allowed to run on it when the ground is soft. One of my neighbors, an honest and experienced farmer, says he has obtained one-and-a-half tons per acre the first season of sowing grass seed on such new land, and one of your late correspondents states that he has easily obtained from two to three tons per acre. The upland will be dry enough without ditching, but bottom land is liable to be more or less wet, to have places of standing water, swampy boggy

ground, sometimes filled with bushes, and a free use of the spade will ditch off the water and reclaim much of such land and make it yield the better crop of any thing put into it.

Now from the girdled standing timber, a sufficient amount may be cut down for rails, and if there is a good lumber, stave and fire-wood market near, the bodies of the remaining timber may be pretty much consumed for lumber, stave and cord-wood.

2. You have advanced the idea that "to assist their decay, (stumps) a pile of turf or earth placed on each is a good thing." I think the more you dig the ground away from a stump, the sooner it decays. It is well known that fence posts rot out first just at the surface, while a few inches below the post is but little consumed. But if you mean that turf or earth should be put on the top of the stump, I will agree with you, and a greater effect may be produced by digging out a small place in the center of the top of the stump, or boring in a few inches with an augur, then put on your sod or earth. After two or three years, and after a long dry time, the sod and earth may be removed and fire put in their place and into the hollow stumps, and in a few days and with a little feeding, these stumps may be consumed roots and all.

But to go back a little; if "Novice," or any other person clearing land, has time, means and inclination, it would perhaps be safer and better in the end to make good clean work as they go along. Fall the trees into winrows, cut and pile the limbs closely, so that fire will burn them up clean, when they are well seasoned. Now is the time to make out the cord-wood and pile it up between stakes, unless it is to be drawn off before fires are lit on the piece. And now is the time to make out staves and saw out rail cuts and saw-logs. Whatever timber is not put to the above use, should be cut up fourteen ft. long for logging. The best time for chopping is in winter and spring, and for clearing any time after haying and harvesting.

3. For three or four years, while the stumps are rotting out, there is probably no better purpose to which the land can be devoted than to the rearing of cattle and sheep. J. H. M. Oberlin, May 10th, 1854.

Breaking Colts.

MESSRS. EDITORS—I read an inquiry of H. N. C. in the April number of your *Cultivator*. He wants a few hints on the subject of breaking colts.

In breaking a colt we should never attempt too much at a time. I first break it to lead; then put on gears and lead it till it becomes accustomed to them; then hitch it to a sled. (I think a sled much better than a wagon.) It is best to have three horses and to work it some time to the empty sled. Teach it to walk in the gears at first, and it will learn to pull by degrees. We should always treat a colt with kindness, not severity, and try to make them think that we do not want to hurt them. Care and kindness is the principal thing. I have broke several, and always had good luck and but little trouble. J. S. H. St. Clairville.

Mode of Applying Nitrate of Soda.

MESSRS. EDITORS—In previous communications we have stated such results from the application of this chemical manure as will most probably induce some of your readers to make some trials of its remarkable fertilizing powers. It has produced such increase in crops of grass, hay, oats, barley, wheat, and such profits, that it seems well deserving of farther trials in this country. To those who intend to experiment with it we would offer the following hints, gleaned from the reports of those who have been the most successful in applying it in England and Scotland.

Nitrate of soda is found especially useful for those soils which are deficient in condition, where both soil and subsoil are light, with a tendency to deficiency of straw. On such soils it has been found quite profitable to apply nitrate, whether the crop is hay, grass, wheat, barley or oats. When intended for hay, an equal money-value of guano, viz., 2 cwt. along with 1 cwt. of the nitrate will usually be more profitable than the applying of 2 cwt. of nitrate alone.

Nitrate of soda should not be applied when the land is saturated with moisture, but when it is rather dry than otherwise. Just before a rain is a most suitable time for its application. Until the nitrate is dissolved by rain or a heavy dew, and thus washed into the soil, it must of course remain inactive. Two applications, two to four weeks apart, are found to be better than one application, the quantity being no greater in the one case than in the other. If grass is to be cut green for soiling, so that there is no danger of lodging, a double quantity (2 cwt.) may be applied with or without an equal quantity of guano. The nitrate is best applied to wheat, oats, &c., when the blade is up 3 or 4 inches. To prevent too heavy a growth of straw, and consequent lodging, 1 cwt. of the nitrate and 2 cwt. of common salt will generally be found the most profitable quantity, applied at two separate times. To assist in its more equal distribution, saw-dust or some equivalent dry powder may be mixed with it. Common salt is sometimes used in larger proportions—as much as 3 cwt. per acre—it being claimed that it thus keeps down weeds, and gives to wheat, &c., a stiffer and firmer straw, preventing lodging, rust and mildew. The average quantity of nitrate to an acre is 1 cwt.

In conclusion we would state that last year only about 100 tons of nitrate were used in Scotland; whereas orders and sales this year show that more than 500 tons at least will be disposed of. This, at 1 cwt. per acre, will manure 10,000 acres.

AGRICULTURAL EDUCATION.—The trustees of the University of North Carolina have, in compliance with the demand for more practical education, established professorships of Analytical and Agricultural Chemistry and Civil Engineering—the department of Chemistry, by Prof. B. S. HEDRICK, and that of Engineering, by Prof. C. PHILLIPS. We were gratified to learn, as we do by a letter from Prof. HEDRICK, that his department is in successful operation, the number in attendance being larger than was anticipated.

National Cattle Show.

Arrangements have been made for a national exhibition of Cattle, to be held under the auspices of the United States Ag. Society, at Springfield, Ohio, on the 25th, 26th and 27th days of October next. The time has been fixed at so late a day, in order not to interfere with the State and County Shows; and no doubt a vast many of the prize cattle of these different shows, will be present on the occasion. The Executive Committee say: Six thousands dollars will be distributed in premiums for the best stock of the various breeds of Cattle, subject to competition without territorial limit. Springfield is centrally located as regards the cattle region; it is most convenient of access by railroad from every point of the compass. The means for accommodating, at very moderate charges, a large number of persons are ample. Private houses will be opened for the reception of guests. There are also eighteen cities and towns within reach by an hours' ride on the railroads, on which extra trains will be placed to accommodate such as wish to go elsewhere for lodgings. About twenty acres of ground have been enclosed, and more than three hundred stalls will be prepared for the shelter of cattle during the convention. It is expected that very liberal arrangements will be made by all the railroad companies, both for the transportation of cattle and the conveyance of passengers to and from the Fair.

Plaster for Potatoes.

MESSRS. EDITORS—I beg the privilege of stating to the readers of the Country Gentleman, an experiment which I have tried in raising potatoes. I have planted on all kinds of land; and to my satisfaction, have found that dry, poor land is best; because they are much less subject to be destroyed by that baneful scourge the potatoe rot. I last year planted the driest and poorest part of my cornfield to potatoes without any application until after the first hoeing, when, having some plaster left after plastering my corn, I applied it to about half of my potatoes on the hill. At the second hoeing a vast difference was perceptible in the vines. The plastered part continued in advance through the season. At the time of digging, there proved to be double the quantity, and of a much larger size. There were some indication that some had decayed among the whole, but no more of the plastered ones than the other. I shall try the same plan this year. *LUCIS GRISWOLD. Milton, Ct.*

MEAT FOR NEW-YORK.—The New-York Tribune furnishes a variety of interesting statistics in relation to the number, weight and value of the animals butchered weekly in New-York. The number of beeves slaughtered during the first three months of the present year was 36,249, the estimated value of which amounts to \$2,120,562, or an average of \$167,280 per week, which the city pays to the country for beef alone. The number of sheep and lambs butchered during the same time was 90,616—swine, 67,763—calves, 10,376.

Proper Time for Cutting Hay, &c.

EDS. OF COUNTRY GENTLEMAN—I have been looking for some more extended suggestions in your paper, on the subject of hay, either from your pens or those of your experienced correspondents. Indeed it seems to me that the public needs to be enlightened upon this subject, and to your sheet, with its deserved reputation, we must look for the lead. Not only the producer, but the purchaser, should have a correct view of the subject, for much hay is grown and cured with reference to the *taste* of the buyer, rather than to the benefit of the animals that consume it. The demand in market is all for timothy, especially for horses, and that cut when the seed is fully grown. Nothing else passes as good hay in our markets. In France and England, I understand clover sells as No. 1, and in Boston and other New England markets, fowl meadow takes the precedence. I have fed to horses, cattle and sheep with good success, all varieties of clover from the largest to the smallest (white); also timothy, red top grown upon dry ground, and mixed with clover and timothy and June or spear grass from rich and damp ground; and I have found the more varieties grown the larger the yield.

There is, however, I apprehend, one fault, and a great one, of the farmer, which contributes to the peculiar and exclusive taste of the buyer, that is the mode of curing. Late cut grass is cured when cut, but early cut must be cured with care and skill, as it will suffer in nutriment or become musty. But before making any suggestions upon the mode of curing, I will offer my views in short upon the time of cutting.

I have no doubt that grasses of all common varieties, are at their greatest perfection for hay when in the blossom. The after growth is more abundant when cut in that state; the ground better protected from the rays of the sun, and the roots left in a more vital state for the succeeding crops: and, in addition, the barn-yard is spared from much foul seed, which matures in late cut hay. This, I may say, is the result of my limited experience and observation. My childhood was spent upon a farm in Windsor County, Vermont. Clover was there generally mowed in June, and the good farmers commenced haying, (of their English grass as they called it,) by July, and I am fully convinced their hay was more nutritious than our late cut hay. Cattle, sheep, and even horses, grew and gained in flesh, upon this hay. And on occasional visits to that section, when I have driven my own horses, I have found they would do better on the hay in Vermont than in New York. In the western part of New York, where I had what was properly called a grain farm, for some years, I often had an opportunity of testing the value of hay which I had cut early, and cured, my way with that purchased, cut and cured to the fashion of the market. My horses, when fed on clover hay, grown upon my own farm, without grain, did as well as when fed on the purchased, with eight quarts of oats daily. It would afford me much pleasure to see further light beamed upon this dark subject, in your columns.

BEST MODE OF CURING HAY.

My mode of curing hay was derived from directions given by Judge BUEL, about the time he started the Cultivator. The mowing should be performed when the grass is free from rain water or dew; and when the grass is wilted it should be cocked, observing the rule invariably; never spread the grass or open a cock unless through carelessness water has got into its midst. If the prospect of weather is good and the yield large, what is mowed in the forenoon and up to mid afternoon is turned over in the swath before the dew falls, so as to expose the green surface to the dew. The next day it is cocked either from the swath or winrow, by placing one fork full upon another without rolling up. This is the most important thing to be well done in the whole process of hay making, and every man must be instructed to do it the very right way, and no other, or the whole system fails. When cocked it should remain unopened until cured, from two days and upwards. The cocks should be made small in circumference, and as tall as they will stand; the grass being cocked when heavy, they will not blow over easily. For experiment, I have allowed the cocks to stand three weeks, and I think without injury. The same came out bright in March, with the heads, leaves and blossoms of the clover on, and as bright as when cut. I find most men, after the hay is cocked, are impatient to stir it. After a long rain, I let the cocks remain until thoroughly dried upon the outside, about two days; and then if wet at the bottom, invert them, ready for another rain upon that end; or if good weather, draw it in soon thereafter.

In this way, I never have had hay badly cured, in the worst of weather. Care and judgment will overcome the worst of difficulties. I have had cocks out from one to two weeks in severest rains, without material injury. A cock well made, has a well thatched roof and water will not pass in over an inch. If the weather is doubtful, the grass is spread, and if light it should be cocked the same day it is mowed. But the farmer has no business to have light grass. Two and a half tons to the acre is the least he should have when long enough on the farm to prepare and seed his meadows. It is miserable economy to have less.

There is another way of securing hay, which I have known some good farmers practice. That is, cut the grass when in blossom, free from wet; wilt it, and draw it to the barn in that state, and keep the barn as near air-tight as possible. I have understood this is extensively practiced in Pennsylvania, where they have stone barns well adapted to the practice, and one of the most intelligent and prosperous graziers of Chemung county, told me this was his practice; he said the hay would mold a little, but the cattle would eat it as well or better, and he thought it more nutritious—probably better for cattle than horses or sheep.

INQUIRIES ABOUT DRAINING AND IRRIGATION.

And now gentlemen, I wish a little advice on the subject of draining and irrigation. I have seen the boy who blew the fire to roast his ear of corn, and then

blew the corn to cool it. Now all the rage is to make the lands dry by drainage, and also make them wet by irrigation. I have cultivated a farm at the West, which nature had drained, it being a gravelly loam soil, some two feet deep, upon a compact clay subsoil—all that was wheat land, corn land or grass land. I removed to this farm two years ago. The 200 acres under what is called improvement, lies between the Champlain Canal and the Hudson River; the west 100 acres nearest the canal, is what is denominated good meadow land—subsoil, clay; surface, clay or clay and sandy loam, with a few inches of muck generally. The eastern parts, river flats, generally dry, with wet places, and a ridge west of the flats, but not so high as the meadows; generally dry, based on the slate, and mostly overlaid by clay, sandy and gravelly loam, with wet depressed holes in spots. I commenced near the river, to drain one field every year until I went over the whole farm. But the idea of irrigation has come in like backwater upon my notions of drainage, and the question is, where shall the line be where the two contending systems meet? or shall both run over the whole as a tree and vine covering the same space? I have no doubt as to pursuing the drainage as to the 100 acres next to the river, which, if I pursue grazing as I intend, would be sufficient to raise all the grain and roots required for the farm; but as to the other, comes the question, will that, well prepared, be as profitable in durable meadow and pasture? and how prepared, by draining and then irrigating, (there is a supply of water for that) or neither? This land is now wet in the spring and fall, and dry during the summer. It seems to me that it is now in about the same state as that described by Mr. MORRIS (in his valedictory address to the State Society,) as irrigated on the slopes of the Alps. Would not the use of the subsoil plow in preparing this, do all that is required as drainage for permanent meadow or pasture? and then if more water is needed, irrigate? I can readily conceive in our climate, on gravelly lands, irrigation would be very beneficial; it will not only afford moisture but will make a porous soil more compact; and here arises a query, whether for that reason it is not detrimental to a clay soil—will it not make it too compact? if it brought on a fertilizing sediment it would enrich by that means—and again if irrigation will produce rot in sheep who feed upon the pastures overflowed, I should think the evil would be as great as the benefit. Yours, &c., L. Strachan Farm, near Mechanicsville, N. Y.

CALIFORNIA WHEAT CROP.—AN immense breadth of land was sown to wheat the last autumn, and the crop is now represented in the most flourishing condition. It is said that the larger portion of the yield last year averaged 50, and frequently as high as 60 to 70 bushels per acre. Estimating the present crop at only thirty bushels, of which there can be no doubt, it is thought that it will be abundant to supply all the wants of the State.

Covered and Uncovered Manures.

MESSERS. EDITORS.—In the No. of *The Country Gentleman* for Feb. 23rd, there is, under the caption of "Truths not yet adopted in Practice," a very urgent appeal made to farmers to adopt more generally some efficient measures for the protection of their farm-yard manures from the destructive effects of exposure to all the winds, rains, and scorching heats of the year. That appeal, we trust, will be heeded by those interested, as many thousands of dollars' worth is annually allowed to go to waste for want of some suitable care of yard manures.

Having lately perused some account of experiments made by Lord Kinnaird, reported in the *Journal of the Royal Agricultural Society of England*, on the comparative value of covered and uncovered manures, it occurred to me that a brief sketch of these experiments and their results might contribute somewhat toward fixing in the public mind an impression of the importance of more care, than now generally prevails, in regard to protecting yard manures and saving them from waste.

In 1851, a field of 20 acres, of very equal quality, being a rich loam naturally dry and in good heart, with an exposure to the south, was selected for the experiment, and divided into two equal portions. The manure was applied at the rate of 20 cart-loads per acre. The whole field was planted with potatoes; the seed all of one kind; and planted first and second weeks in April. All braided well, and showed no difference in growth till the first week of July, when a decided superiority began to manifest itself in the half of the field manured out of the covered yards. The vines on the portion of the field manured from the exposed yards began to decay by the latter end of July, while the other portion of the field still retained its strong dark green. The crops were taken up on the 1st to 4th of October, and after careful measurement and weighing of two separate portions in each division, the result was as follows:—

With uncovered manure.			
	tons.	cwt.	lbs.
1st measurement—1 acre produced	7	6	8 of potatoes.
2d do do do do	7	18	99 do

With covered manure.			
	tons.	cwt.	lbs.
1st measurement—1 acre produced	11	17	56 of potatoes.
2d do do do do	11	12	26 do

As soon as possible after the potatoes were harvested, the field was cleaned, plowed and wheat drilled in, at the rate of 3 bushels per acre. As soon as the weather was suitable in the spring, the whole field got a dressing of 3 cwt. of Peruvian guano per acre. During the winter very little difference was apparent; but shortly after the application of the guano, the wheat on that portion manured by the covered dung took a decided lead, which it retained all summer. The whole field was cut on the 26th of August, 1852; the portion manured by the uncovered dung being at least four days earlier than the other. As before, the two separate portions in each half of the field were measured, cut and stooked separately. On the 4th Sept.,

each portion was thrashed, the grain carefully measured, and the straw weighed. On account of a wet season the grain was of lighter weight than usual, in G. Britain, per bushel. The result of the experiment was as follows:—

With uncovered manure.			
Produce in Grain.	Weight per bush.	Produce in Straw	
acre. bush. lbs.	lbs.	stones. lbs.	
1st 41 19	61½	152 of 22	
2d 42 38	do	160 do	
With covered manure.			
1st 55 5	61	220 of 22	
2d 53 47	61	210 do	

These and similar experiments have satisfied Lord Kinnaird of the advantages to be derived from having farm-yard manures put under cover. They seem so conclusive and instructive on this point as to deserve to be brought before the farming classes of this country. Not a few of your readers, we doubt not, will take measures of some kind to profit by them. It will require but a few minutes to determine the probable profits of protecting any certain amount of yard-manure. It appears from the above results that Lord Kinnaird got about 125 bushels of wheat more from the ten acres manured with covered dung, than from the 10 acres which had been manured with the uncovered. In wheat alone, then, without taking potatoes or wheat straw into account, the difference in favor of covered manure was quite considerable. *

Weeds—Weeds!

We often observe, in passing through the country, the pastures of poor farmers crowded with armies—not of Turks and Russians—but of mulleins, horse-thistles, and other invaders, which not only devour the strength of the land and pay nothing in return, but continually say, like impertinent tell-tales, to every passing traveler, in the language of a celebrated writer, "Behold the field of the slothful, and the field of the man void of understanding! For lo, it is all grown over with burdocks, and Johnswort has covered the face thereof."

We take it for granted that no reader of this journal ever voluntarily allows weeds to grow on his premises, but some, however, obtain stealthy possession—and if some of our good friends of this class would go over their grounds, make a careful observation, and estimate the amount of vegetable growth thus feeding on the strength of their soil, which might as well be wheat, corn, and ruta-bagas, they would certainly be surprised at the amount. It would be a curious question in philosophy, why so many will thus allow a yearly waste from weeds of some fifty or a hundred dollars, with all quietness and submission, who would be ready in a moment to bring an action at law against a neighbor, whose cattle and swine should devour a fifth part of that quantity.

If we could only have all the value of the riches of the country at large thus wasted, placed in our hands for endowing agricultural schools, there would be no necessity whatever of applying to national and state legislatures for help.

Now is the very point of time for thinking this matter over, with a determination to act efficiently in the premises; and if any one is too busy or "drowsy" to attend to it, he has certainly either undertaken the care of too much land, or else is pursuing a system which may emphatically be compared to "saving at the tap and wasting at the bung." No one is ever too busy to turn his neighbor's cattle out of his cornfield—and he ought to pursue the same system towards other intruders. We have known farms to be affected in market value from five to ten dollars per acre, by being kept neat and clean in one instance, and foul, weedy, and repulsive, in the other.

Remedy for Smut in Wheat.

MESSRS. EDITORS—I see a writer in the Country Gentleman, asks for a preventive for smut or fungus in wheat. This, together with the frequent inquiries made by our northern friends, in the wheat growing regions, induces me to give you one that is simple, cheap, never failing. It is simply a soak in water in which blue vitriol has been dissolved, in the following proportions: For each 4 or 5 bushels wheat, dissolve 1 lb. blue vitriol in water sufficient to cover and properly soak the wheat; let it remain in this soak 20 to 24 hours—sow immediately after taken out of the soak. Pursue this annually and properly, and my word for it you will never more hear complaint of smut in wheat, however badly the seed from which it was grown may have been mixed with smut. This is the discovery (at least in this state,) of an old and successful planter and wheat grower of this district; and has been tested many years, always successfully, by hundreds, yea thousands. Some say this soak also effectually eradicates chess, in a few years, but of this I am not fully satisfied. But when properly applied and used, that it is a sure and effectual remedy for smut, there is not the shadow of a doubt.

If new, or untried, with you, get a single farmer to make the experiment. He, you, or the country generally, will never regret it. R. STEWART. *Newberry, S. C.*

Destroying Brakes, Ferns, &c.

MESSRS. EDITORS—In looking over the Jan. No. of *The Cultivator*, I noticed an inquiry of D. C. L., Essex, Vt., as to the best method to destroy Brakes and Ferns. Having some experience in the matter referred to, I would state for the benefit of those who are desirous of ridding their land of these troublesome intruders, that there is a "royal road" which leads "to destruction." To kill out brakes, mowing in June and Sept., kills them in 2 or 3 years, except the bog brake, the crown of which must be cut with a bog-hoe or spade. Docks and burdocks are destroyed in the same way. Fern, mowed any time from the 20th of June to 1st of Sept., raked and burnt, prepares the land for after improvement. The next season a good many sprouts will start up, enough to discourage the inexperienced, but keep the guide board up at the beginning of the "royal road," (here lies the secret)—in Au-

gust, when well up, mow close to the ground. They require no raking—if any start the third season, serve them in like manner, and that is the end of them. This course with me has always proved successful. For further proof, examine your meadows that are mowed every year—there are no ferns growing. C. S. Shelburne, Mass.

Saving Clover Seed by Machinery.

A very interesting communication lately appeared in the American Farmer, from EDWARD STABLER, of Sandy Spring, Md., one of the most intelligent and best practical farmers of our country, on the use of the mowing and reaping machine as a saver of labor. From a note just received from him in relation to the same subject, he says, "I do not in the least doubt that the mowing and reaping machine has fully saved half its cost to me in the last harvest—and even more, if I had taken into the account, the loss in my grass and grain crops without it. Hands with us could not be procured sufficient for both crops in proper season, and many who depended on hand work had to neglect the grass to save the grain. I have no interest in any machine, but I feel a great interest in helping on my brother farmers, north and south, in lightening their burdens."

We furnish the following extracts from the article we have referred to above, which will amply repay a perusal, and show the economy, even to those cultivating small farms, of the machinery alluded to. The public will await with interest further information on the particular kind of contrivance used in these experiments for raking the cut grass off at the side of the machine. On the subject of *cleaning* clover seed, some very valuable hints may be obtained.

A large portion of my crop of clover seed the past season was so fallen and lodged, that scarcely half the seed could be saved with the cradle; consequently, we were compelled to resort to the slow and expensive mowing with scythes, or use the machine. The trial with cradles, resulted in breaking out the fingers, and leaving much of the best seed uncut; the scythe was both too slow and too wasteful. Indeed to look over the fallen and tangled mass of vegetation, persons unacquainted with the machine would have supposed it impossible to cut it clean, with any thing short of the scythe.

The machine (one of Hussey's improved) was set to cut rather higher than for mowing, and by a side delivery of my own construction, the seed was delivered at the side and out of the track, in straight loose bunches in the best possible order for curing and taking up afterwards; and with almost the precision of clock work. It was one of the most beautiful and perfect farm operations I ever saw—scarcely leaving a head standing to the acre, and literally leaving nothing for the rake to glean afterwards. It was completely cut and raked, in about one-third the time the same hands could have properly raked it alone. We would occasionally, though not often necessary, throw out of gear, pass on through the cleared track, and only cut across and against the lean; in this way every head raised up 4 to 5 inches high, or above the guards, [snakes heads included] was not only cut, but *saved* on the platform. We could well afford to lose a little time in this way, when the machine was doing the work of full ten to a dozen scythes.

The seed is usually left from 5 to 10 days in this state, in order to make it hull more readily; and a

shower or two on it, improves it both for the threshing and hulling operations. At a leisure time in winter, and in cold dry weather, we pass it through the common wheat thresher to separate the heads from the straw. If in good order for threshing, the spike concaves are removed, and blank ones substituted in their places, which answer a better purpose; avoids cutting up the straw, and rendering the raking much less tedious.

The next operation is the hulling; this is done either by running it two or three times through the same machine (spike concaves replaced) as fast as it can be forced in by a board fitting the opening, and having a short handle in the center, 15 or 18 inches long. It is then fanned, when the unhulled seed, falling near the fan, and being much reduced in bulk, may all soon be hulled by passing 4 or 5 times through the machine; or secondly, by an opening to feed in the front of the thresher, about 9 or 10 inches wide, and another opening at back, at the opposite end of the cylinder, the chaff passing diagonally through; but this plan without much care, is very apt to cut or break too much seed; neither does it save much time, as the feeding is necessarily slow.

After some remarks of a more general nature on the different kinds of reapers, and in which further practical knowledge is needed, he makes the following very just remarks:

There is however one thing that must be borne in mind by those who would use mowing machines to the best advantage; it is absolutely necessary to farm neatly,—to clear the ground from stone, stumps, and abrupt inequalities on the surface. For a Farmer to expect to mow close and clean, without the trouble of picking up the stones, and with the knives cutting through the earth and gravel, is about as reasonable, and as profitable too, as for a mechanic to undertake to plane up his boards covered with grit, or driven through with nails.

Training Colts.

MR. TUCKER—Your correspondent H. N. E. inquires "how to break colts." I will give him the benefit of my experience. While the colts follow the mare, or at the time of weaning, is the proper time to halter them. At first lead the dam in advance, and let the colt follow. If it refuses to obey the halter when pulled, turn it one way and the other a few times, and it will soon obey. If haltered at this early age, they are easily managed, and there is little or no danger of injury to the colt. Continue to handle them while young, and they will seldom become unmanageable. The winter before they are two years old, it will do to begin with the "bitting-bridle." Do not buckle them up too tight at first, or leave them in the bit too long—an hour will do—which may be repeated in two or three days. It is well to exercise them in this way several times—then attach long reins to the bit, and drive them about the yard. Do this a few times, when you may harness them with a quiet gentle horse and drive not more than two miles, as, if they get tired and discouraged, it is apt to break their spirits. Always use gentle means—never whip a colt. It is the *whip* that makes more balky horses than anything else.

The best feed for colts is good clover hay, cut, with bran, or shorts. It is also the cheapest. Carrots are excellent for colts, say about four quarts per day. The first winter is the *trying time* for colts. It is then that they require nursing and extra feed. I keep mine in a stable without any floor, and give them regular daily exercise, which I consider important. J. Brandon.

Foreign Correspondence.

NITROGEN.

MUNICH, BAVARIA, May, 1854.

MESSEES. EDITORS—The nature of the sources of the food of vegetables is a topic of deep interest to the farmer who is intelligent in the study and pursuit of his profession. But a very few years have elapsed since this subject began to excite the attention of those capable of subjecting it to a successful examination, and to-day we are in the midst of an era which is occupied with solving the problem. Already so much is known with regard to this matter as to furnish one of the most interesting chapters in physical science. Yet from year to year the formerly received principles require extension and correction from the results of new researches.

The farmer knows that the muscle which sustains his labor, and the nerve which impels and guides it, contain as an invariable and essential ingredient, a substance called azote, or nitrogen. He knows that it must be contained in his food in order that it support life, and of course also must be obtainable by the vegetable which is the only ultimate source of animal nutrition. It is assumed as a general thing that the chief hindrance to perfect vegetable development is a deficiency of this body, or at least a deficiency of those forms of it which are capable of giving it to the plant.

Chemistry teaches that there occur in nature, but three bodies which can directly supply the vegetable kingdom with the nitrogen needful for its growth. These are, 1st, the free nitrogen of the atmosphere; 2d, ammonia, existing in air, in water and in the soil; and 3d, nitric acid in union with ammonia, potash, soda, or lime, in the atmosphere, in water or in soils.

It is proposed in this paper briefly to review the facts and doctrines hitherto received concerning the availability of each of these bodies as sources of vegetable nutrition, and to bring forward the interesting results of recent investigations.

1. To what extent is atmospheric nitrogen directly assimilable by plants?

Four-fifths of the air which constantly bathes the leaves of plants is nitrogen.* The result of nearly every one of the earlier investigations was, however, that this nitrogen does not contribute directly to vegetable growth, and accordingly in the standard treatises on the chemistry of vegetation it is accepted as a fact that nitrogen is acquired by the plant from other sources. Boussingault, indeed, was led by some of his grand trials to suppose that atmospheric nitrogen might be directly absorbable, but his results have been usually explained in another way. Very recently in-

vestigations have led to the fact that the nitrogen of common air is actually absorbed and assimilated by plants. Dr. Knop of Leipzig, in a series of experiments upon aquatic plants, found that shoots of the common "cat-tail," when brought into glass vessels, inverted in water and partly filled with an air consisting $\frac{3}{4}$ of nitrogen and $\frac{1}{4}$ of oxygen (in such proportions are oxygen and nitrogen found in the air which is dissolved in spring water) in a short time completely absorbed it. During the last two seasons Ville, a French chemist, has experimented with tobacco, the sunflower, and wheat, in the following manner. He sowed seeds of these plants in soil free from all nitrogen, viz, pure sand mixed with the ashes of the plant experimented with, and contained in a glass chamber, the air of which was steadily renewed. He determined accurately the small quantity of nitrogen which the imprisoned plants could receive from the ammonia of the air admitted to them; he also found how much the seeds sown originally contained: the sum of these two, however, in every case fell short of the amount of nitrogen existing in the plants at the conclusion of the experiment. The difference so far as can be seen must have been furnished by the atmospheric nitrogen.

The only report of his experiments that I have seen does not afford any data for ascertaining what plants assimilate the nitrogen most readily, and therefore stand least in need of artificial nitrogenous manures; but we may hope before long to learn many facts of practical importance from the prosecution of similar but more extended inquiries.

2. What part does ammonia and its compounds play in vegetable development?

By whatever natural process animal and vegetable matters containing nitrogen are destroyed, whether by undergoing the changes that accompany animal nutrition, by burning, or by decay, their nitrogen is converted into the compound called ammonia. In nature ammonia always is found in the state of carbonate (salts of hartshorn, smelling salts) which as well known is so volatile as to diffuse itself rapidly through the air, and as nitrate which is highly soluble in water but not volatile. Ammonia itself is a compound of nitrogen and hydrogen. According to Mulder, the humus, or vegetable matter of the soil devoid of nitrogen, in its decay evolves free hydrogen, which at the moment, unites with atmospheric nitrogen, producing ammonia. The animal kingdom furnishes indirectly a large share of the ammonia that occurs in nature. The muscles, nerves, and other tissues of an animal, as is well known, are constantly wasting as a result of their use, and as constantly being renewed from the materials of the food. In the animal as well as vegetable, the carbon, hydrogen and oxygen of the food are mostly reduced to bodies of very simple constitution, as carbonic acid and water, and in these shapes separated from the system through the lungs, (leaves) or by the perspiratory process through the skin. In the animal, however, the used-up nitrogen is not excreted as gaseous ammonia, for that would be

* The mixture known as atmospheric air, is composed, under almost all circumstances, quite uniformly as follows: In 10,000 parts,

Nitrogen,	7912
Oxygen,	2050
Carbonic acid,	4
Carburetted hydrogen,	4
Ammonia,	trace.

10,000

highly disagreeable were it to pass off as carbonic acid does in the breath, but the urinary functions are charged with its excretion, and from them it is separated in the solid form, and to a great extent as a substance which may be obtained in beautiful white crystals, and which is known to the chemist as *urea*. This body, dissolved in the urine, very soon becomes decomposed, and what is remarkable, it falls directly into carbonate of ammonia. We hardly need stop here to adduce facts to prove that ammonia acts favorably to vegetation. Every farmer knows it. Some trials made by Ville are, however, too interesting to be passed over. He caused plants to grow in chambers, to the air of which he added a small quantity of ammonia. He found that the addition of 4-10,000 of ammonia to the air, produced a result apparent to the eye after a few days, and thereafter becoming more and more considerable, making the vegetation luxuriant, and giving the foliage a deep green color. The highly important fact was fully proved by him that the amount of nitrogen in plants grown under these circumstances, was far greater (almost the double) than in an equal weight of the same kind of plant which had grown in the ordinary air.*

The fact that ammonia exists in the atmosphere has been known for a long time, and several attempts have been made to determine the amount therein. The results of different experimenters are very various. Those of Ville are the most recent, and have been conducted with such care, and on so large a scale as to give them the preference over all previous ones. He found the quantity to vary between 31 and 16 parts in 1,000,000,000. In 16 experiments the average was found to be 22 parts in 1,000,000,000. In the article to which I have had access, he does not communicate the circumstances causing these differences, but they are probably to a great degree due to meteorological changes. How they might have been affected by rain, fog and dew, will be seen by the experiments of Boussingault, which I here communicate.

Boussingault has investigated the amount of ammonia contained in rain water. Since the forms of ammonia found in the atmosphere are very soluble in water, it appears that a rain would wash them out of the air and carry them to the soil. This is found to be the case to a great extent. Boussingault's experiments were conducted in the country at a distance from the abnormal atmosphere of large towns, and the water falling during each rain was collected in 5 to 8 separate successive portions, and the ammonia content of each separately determined. He always found that the first portions of rain contained the largest amount of ammonia, the quantity decreasing, and at last almost but not quite failing entirely. He also found that when an interval of but a few hours elapsed between two showers, the quantity contained in the first portion of the second shower was always greater than that yielded by the last portion of the first rain. Af-

ter long continued dry weather the ammonia was more than when rains were frequent. When the fall of rain did not exceed 2-100 of an inch, the ammonia formed 311,000-1000,000,000. A fall whose depth was between 2-100 and 4-100 in. contained 121,000-1000,000,000, and between 4-100 and 20-100 in. 70,000-1000,000,000, between 20-100 and 1 25-100 in. 45,000-1000,000,000. During one rain of 1½ hour in August '53, commencing at 4½ P. M. after ten days of dry weather, fell 5½-100 in. water; about 1½ galls. were collected and contained in the gall. (wine measure) 8-100 of a grain, Troy, of ammonia; nearly the half of this was collected in the first sixth of the shower. Two days afterward it began to rain at 7½, A. M., and rained gently till 11, A. M.; 8½ in. fell; about 2½ gall. of water were collected, the average content of which was only 2-100 of a grain per gallon. Of the total amount, more than the half was contained in the first fourth of the rain, more than ¼ in the first eighth. The total quantity of ammonia was less than ¼ that found in the rain of two days before. At 6, P. M., of the same day fell a sharp shower lasting ¼ hour. The collected rain was about 1-3, and the ammonia was 4-5 that of the morning rain. The reason of the small amount of ammonia in morning rain is, doubtless, that the dew of the preceding night had washed the air to a great extent, while between 11, A. M., and 6, P. M., evaporation went on rapidly, carrying the ammonia again into the air. Boussingault was able on several occasions to collect sufficient dew (¼ gallon) to determine its ammonia. He found that body present in greater proportion than in rain. He also collected atmospheric water during fogs, and found in it as much ammonia as in dew, and on one occasion the water contained so much that it was detectable by the ordinary tests. Boussingault remarks to the effect that "these facts explain themselves, by the nature of the carbonate of ammonia which, doubtless, is the form in which the greater part of the ammonia exists. This carbonate is volatile and very soluble in water. Formed in or upon the soil, from decay, &c., it continually passes off into the air as vapor, and it is clear that it will be taken up by rain, dew, &c., and brought again to the earth, and that rain will contain more when it begins than when it ceases. When the rain is over the carbonate vaporizes again, and indeed faster, according as the temperature is higher, and the physical and chemical properties of the soil favor evaporation. There thus occurs a perpetual exchange of ammonia between the air and the soil."

From the 26th May to the 16th Nov., Boussingault examined all the rains, dews and fogs which could be collected. On a surface of 268 sq. ft. he collected 462 gallons of water, which contained a little less than 14 grains of ammonia, a rate of a little more than 5 oz. per acre. Admitting as much as this to be actually brought within reach of the plant, it is but a small contribution to the growing crop. An acre of wheat yielding 30 bushels, contains nitrogen equivalent to 30-35 lbs. of ammonia, or 100 times the amount

* The details of Ville's experiments will occupy a special article in some future number.

brought to the soil from the atmosphere. It must be borne in mind, however, that the ammonia brought to the soil in the dews of every night, not taken into the above account, is quite considerable.

Boussingault has made numerous analyses of spring and river water, with reference to their ammonia, and finds its amount exceedingly small except in cases where it might naturally be looked for in unusual quantity. It hence appears that the atmospheric water loses its ammonia in filtering through the soil. The retentive faculty of the soil has been so often discussed in your paper that it is now unnecessary to recur to the subject. As a consequence of it, ammonia accumulates in the soil to a certain extent, though to what extent is not accurately known, as the experiments made upon this point have been incorrectly carried out. In 16 recent analyses of soils, I find an average of 14 pts. of nitrogen in 10,000 of soil. Were this all ammonia as some have assumed, and as is probably the case, it is equivalent to more than 3,000 lbs. per acre in a depth of 6 inches—a very large supply, if it be indeed actually a supply. 300 lbs. of guano is a large manuring, yet can yield not more than 60 lbs. of ammonia; and if this amount be doubled the crop is often spoiled from excess. It is plain, then, that our knowledge of the state in which nitrogen exists in the soil, is entirely too vague to warrant much speculation upon the extent to which it is available to the plant.

The extent to which ammonia exists in soils, and the conditions under which they yield it most rapidly to plants, are subjects in the study of which important practical results may be expected to be attained. It is immediately important to know if every acre of soil of fair quality does contain 3000 lbs. of ammonia, and to know how to make this possible stock tell most favorably upon crops.

It is very rare that the retentive power of a soil is called into full action: it always remains ready to absorb new bodies that may be presented; at the same time small quantities of ammonia produce highly remarkable results upon plants growing in clayey and retentive soils.

It is an interesting fact, that crops of meadow hay, clover and peas, grown on a tolerable soil, without manure, contain far more nitrogen than wheat or other cereals raised on the same soil, with the aid of manure. In how far this depends upon the structure and habits of the plant, upon its ability to assimilate free nitrogen, or appropriate the ammonia of the soil, upon its slow or rapid growth and maturity, its greater or less expansion of root and leaf, must be decided by future investigations.

But this article has already reached such a length, that some remarks that might be made upon the natural supply of nitrogen through the *nitrites*, may be omitted, more especially as it is highly probable that this source of nitrogen is very insignificant under most circumstances, and our knowledge of the subject is certainly very limited.

S. W. JOHNSON.

Breaking Young Animals.

A story is told of a person who traveled through England exhibiting feats of horsemanship, and when at the residence of a certain nobleman, after he had done with his own horse, he turned and said, "Now my lord, I am now willing to ride any horse of yours in the same manner." The nobleman, for sport, had one brought out which unknown to the equestrian, was ungovernably stubborn. The man deliberately mounted, but the animal when urged would not move. After a pause, he quietly dismounted, gave it *one* severe cut with his whip and again resumed the saddle. The animal remained unmoved, but the man retained his complete self-control, and got down a second time and repeated the blow, but with no better success. After the third stroke, however, there was no further trouble—the animal moved forward in perfect obedience.

A great many, doubtless, would have looked upon this feat as an exhibition of some particular *charm* which the horseman had over the beast. But instead of this, it was one of the simplest operations imaginable, and one which any one could easily perform. It was only necessary for the rider to keep himself and the animal *cool*, and to impress the latter with the distinct and single idea what the stroke of the whip was for, and the business was done. A *single stroke*, with a considerable pause between, excites an irresistible terror and dread; but a *shower of blows* would be not only unintelligible to the animal, but would excite a fury of passion and a feeling of resistance that would only increase the obstinacy, and make the matter worse. At the same time such a course would have only destroyed the self-control of the rider; and it may be laid down as an axiom, that he who cannot control his own temper, cannot properly manage an animal.

The writer has applied the same mode of treatment in subduing vicious and kicking cows, with complete success. Animals, that even the most daring of ordinary milkers would not think of approaching without previously cording strongly the hind legs, have been completely cured, not like the quack teachers of French, "in six lessons," but in three milkings. The cow, placed in a small yard, was neither tied nor otherwise confined; a cow-hide was placed under the left arm, and milking commenced. The instant kick was eluded, and an equally instant and severe stroke of the cow-hide followed. Especial care was taken that the cut of the whip should always follow the kick, and never but one blow, no matter what the provocation might be. If the cow started to run, the same solitary blow fell upon her face. At all other times, she was spoken to firmly and soothingly, accompanied occasionally by a gentle friction of the hand. It required but very few administrations of this regimen for the animal to understand, very distinctly, exactly what was meant, and what the blow was for; and if this is *invariably* and faithfully attended to, a single milking will commonly be nearly enough to change the habit, and one or two more will completely confirm it. But if the

operator *sometimes* omits the punishment, or sometimes strikes *twice*, he may as well give up the attempt at once.

We have known the most furious animals so changed in a fortnight by this management, as to stand quietly through a milking with a dreamy expression of face, quietly chewing the cud, when formerly all was rage, fury and terror. The whole was accomplished by a self-controlling exercise of the simplest common sense and reason.

Nothing is more common among boys and thoughtless persons, than a treatment of animals which one moment's reflection would show to be ruinous to their quiet and gentle habits. A cow kicks spitefully, but happens to do no harm,—she escapes the penalty. She accidentally moves her foot and upsets a full pail of milk,—a tempest of blows descends upon her. Such a course will soon spoil any cow. Or, her kicks are borne without notice till the patience of the milker is exhausted, and then commences a general broadside of kicks, thumps, and blows. It is impossible for any animal, possessing even the sagacity of a politician, to understand such treatment, or to form any distinct connexion between cause and effect, offence and penalty.

It often happens that animals are untractable solely because they are not familiar with men. The most successful trainer of oxen we ever met with, always made this his first point of attention. When he was about to commence operations, he enclosed a considerable number of young steers in an ample yard, and spent several hours in merely passing round among them in order to render his presence familiar to them. The timid amongst them soon learned that he was neither a tiger nor a boa-constrictor, but a very harmless companion. Occasionally, he would touch them gently with his hand, till after a time they became accustomed to his touch, and finally to handling freely. After several hours spent thus, he next applied the ox-bow to their necks—then by gentle pressure, perseveringly continued, he learned them to follow—by degrees they were drawn side by side—then yoked together—then led or driven about. By coolness, determination, and perseverance, he often succeeded in breaking them without striking a blow; and the remark has been often made that oxen of his training were the best-broken of any in the country. By operating on six or eight yoke at once, especially during the earlier part of the process, he did not lose any time, and could afford to be patient and deliberate in the treatment.

Wire and Live Fences.

MR TUCKER—I notice in your paper, an inquiry respecting Wire Fences. The writer has had but small experience; but proposes to give that for the benefit of your inquirer. The last fall, my son made nine or ten rods of it. Set a post very firmly at each end, and one in the middle—then drew wires of large size tort and straight, fastened at the ends, and also to the middle post by staples made of wire. Then placed uprights of scantling, about twelve feet apart, and fastened the

wires to them with staples, and interlaced the whole with small wire in the most approved manner. It looked well at first; but the first time my horse was let loose by it, being a little playful, the first dash he levelled half of it, coming down broadside to the great risk of his neck and limbs. The other half the wires have stretched so that every wind sways it to and fro; and altogether it is as great an eye-sore as any decent man would like to see on his premises.

I would remark that my horse has not been accustomed to break out of enclosures, though the fence happened to be low; and the wire fence was from five to six feet high. I would advise your inquirer and all others to try but a short piece first, and think they would never wish to add to it. D. Watertown, Ct.

MESSRS. EDITORS—I notice an inquiry in relation to the availability of Wire Fences, and having derived much information from the pages of your periodical, it is acting on the merely tit-for-tat principle to communicate in return whatever experience and observation has taught me in regard to those matters that are not as yet brought under the general knowledge of your readers.

The growing sparseness of timber, and the occasional scarcity of stones, in the cultivated districts of the state, induces our farmers to look about them with a little speculation, and much of anxiety in their eye, for something at once cheap and durable, to replace the aboriginal log or worm protections that erst were piled, or wriggled round, the pasture lots and grain fields of old.

The reason that wire fences have been meted out a measure of condemnation, is on account of the general taste and slightness of their construction. The supposition has been that because the notion of their erection was new, four wires and 16 ft. apart posts were full proof; but a trampled down patch of grass, and gaps big enough for a herd to pass, have somewhat corrected the error.

The first wire fence we constructed, was from drawings in the Cultivator. Five wires, with cedar stakes, were stretched down the tempting length of an orchard. The fruit was, however, too much of a temptation, and the barrier too weak—the staples not long enough or strong enough to prevent its becoming an occasional pasture lot, and no patching or boards, or twisting in of rails, was sufficient for an antidote.

The fact is, a wire fence will not be worth any thing as a protection, unless the posts be of good size, 8 or 10 ft. apart, a board at bottom about 8 inches or a foot from the ground, a rail spiked on the top of the posts, and five wires filling the intervening space. Running the wires first on one side of one post, and then on the other side of the other, will not answer as well as boring holes with a small augur, and inserting them through the post. The method of bracing the large posts at the end, as laid down in *The Cultivator*, and the fastening the ends of the wires by staples, cannot, as far as our experience has gone, be improved. I hardly know if the number of wires thus necessary to

be used, would be cheaper than board fence, but with us, has the double advantage of using up our otherwise useless wire, and prevents the large snow-banks that often drift to the extinction of any winter grain that may happen to lay contiguous to a fence.

By the way, now I have my pen in the ink on the subject of fencing, let me say a word on live ones. I saw a long length of perfectly impregnable fence, when traversing Columbia county last fall, made of privet, the domestic locust, and white cedar—one-fourth perhaps of the latter. It was a boundary, subject to the depredations of cows on the highway; but, as the proprietor informed me, impervious to their attacks.

Along the public thoroughfares in the valley of the Connecticut, I have observed some of the most beautiful of hedges, formed wholly of the thorny locust I have mentioned. The long dangerous spurs, made them disagreeable to hogs, and marauding cattle, while their foliage was pleasing to the eye, and they were an efficacious protection to the enclosure. Why would not our Osage orange and this locust, interspersed with the Michigan rose, be at once a cheap, permanent, and splendid fence, for the vicinage of the farmer's house, and ultimately his acres? S. A. Canajoharie.

Sowing Corn for Fodder.

We have labored for some years past to induce farmers not only to sow corn for fodder, but to do it *right*. We observe repeated recommendations in the agricultural papers to sow *broadcast*, and in a late volume of the Transactions of a State Agricultural Society, the writer of this paragraph is quoted as recommending broadcast sowing. Now, it happens that we have repeatedly for several years, pointed out the great inferiority of broadcast sowing, to planting in drills, which is simply this: Sowing in furrows or in drills requires only about one-half or two-thirds of the amount of seed needed for broadcast sowing, a consideration of some importance when it is remembered that at least four or five bushels per acre are required for the latter mode. Drills, by admitting the cultivator, leave the ground clean and mellow, and this greatly adds to the growth of the crop; they admit of easier harvesting; and yield about one-third more fodder per acre.

The greatest difficulty with this crop is *curing it properly* before stacking. The leaves may become perfectly dry while a large quantity of water remains in the stalks, which causes fermentation and the complete loss of the value of the fodder when placed in large stacks. The remedies are early sowing, so as to give the warm weather of late summer a chance for drying the fodder; stacking in large shocks in the field till wanted in winter, or in numerous small stacks if drawn off the ground; building moderate sized stacks, with a liberal application of salt to successive layers as they are deposited, and building each round three rails, set upright to serve as a ventilator.

There are very few farmers who do not run short of good succulent pasture early in autumn. An acre or

two of ground for *soiling* at that season, would be almost invaluable. Any good soil will answer—moist is best; plow and furrow three feet apart—strew along in each furrow from a hand basket, at the rate of two or three bushels per acre—cover by harrowing—run the cultivator between when the corn is a foot high,—and the whole thing is done. Fourteen tons of green fodder, and five to seven of dry, may be had from a good acre. This month will do for sowing, but the earlier the better.

Seasonable Hints.

There are a few important items in the farmer's practice, which are not unfrequently omitted from forgetfulness, at the present busy season of the year, and which it may be useful to remind some of our readers at the present time.

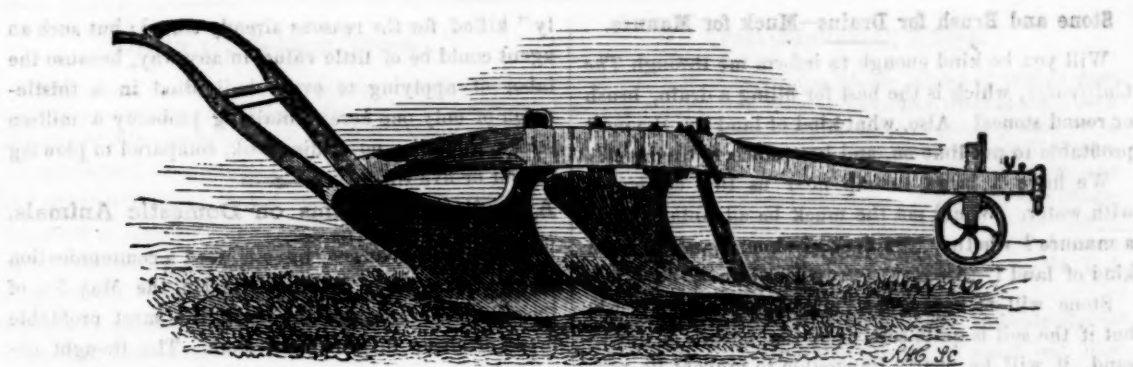
Weeds in pastures are often overlooked, till they have ripened their seed, and scattered enough for a plentiful crop another year. Some of them will be destroyed by cutting with a scythe before or when in blossom—others will need grubbing at the roots. A few hours expended in this way will not only prevent a loss to the soil by growing unnecessary herbage, but give the fields a neatness of appearance, which every good farmer ought to take pride in seeing.

Ruta bagas and other root crops often cost double in cultivation by leaving them at the first hoeing till the weeds have got the ascendancy. The first dressing should be given when the plants are not more than an inch high.

The best hay is that which is made without becoming too dry; but to prevent moldiness, it should be moderately salted. The intermixture of the salt is more perfect when it is frequently applied in successive layers. One peck to a peck and a half is not too much for a ton of hay. Let farmers see that a sufficient supply of salt is on hand before commencing haying, and then it will not be so likely to be neglected.

Those who have young fruit trees on their ground, should not forget that it is vitally important to keep the ground mellow to a good depth for some distance about them—and that for newly transplanted cherry trees, mulching is indispensably necessary to prevent the death of the trees that so frequently occurs after they have expanded their leaves, from the drouth and heat of midsummer. If plums show the commencement of the black excrescences, cut them off very promptly, and repeatedly as fast as they appear, washing the wounds with chloride of lime, which from the trial we have made, is much better than salt, copperas, or any other application for protecting the spread of the disease and healing the wounds. Remember, now is about the time to watch for the peach borer, so as to cut him out timely.

A CALIFORNIAN VINEYARD.—"The Pacific," a San Francisco newspaper, states that Mr. Wm. Wolfkill of Los Angeles, has a vineyard of 35 acres, with about 1000 plants to the acre, from which he makes each year from 34,000 to 35,000 gallons of wine, which at \$1 per gallon would make the produce about \$1,000 per acre.



Sod and Sub-Soil Plows.

Sod and Sub-Soil Plows, as perfected in No. 33, constructed by Ruggles & Co. of Boston.

This form of plow received the unqualified approbation of the committee on Agricultural Implements, at New York Crystal Palace; and is, in my judgment, one of the most complete implements for the purpose designed, that has been constructed. Like every other plow, it works best, where there are least obstacles in the way; but still it is not easily directed from its course; it moves with greater steadiness and uniformity, than any single plow can be made to move;—it can be regulated to any depth of furrow slices;—it completely turns over the first furrow slices, so that the second is thrown without any embarrassment directly upon the first; and so lightly that it can be pulverized, with great ease. When the ground is free of roots and stones, we know of nothing more complete than the work of this plow. From repeated experiments we are satisfied that it is operated with even less power than is required to turn a single furrow, of the same depth and width as the two combined; and when done, that the work is worth double for all the purposes for which a plow is ordinarily used. Our confidence in this plow is such that we can not commend it too highly. P. May 30, 1854.

Preparation of Bones for Use.

MESSERS. EDITORS—I have recently read an account in one of your papers, of bones dissolved by ashes, which has suggested to my mind another method, equally as sure, and much more speedy.

Instead of placing the bones in the ashes, place them in the lye extracted from the ashes, which will dissolve the bones in twenty-four hours.

I have tested the truth of this by experiment, and found that a hard bone will become, by this process, as soft as pulp. The chemical process is undoubtedly the same in both cases, but this one is much quicker.

This is also a very cheap method—much cheaper than to employ acids. The amount of strong lye which might be extracted from two barrels of good wood ashes, would dissolve a very large bulk of bones—twenty times the amount which any farmer could find upon his premises. This is not only a cheap method, but a very simple one—one which any farmer could try without putting himself to any extra trouble. Yours, &c., HENRY E. DECKER. Nassau, N. Y.

Pruning Orchards.

It is a very good rule, and the nearer it is followed the better, that no shoot should be allowed to remain longer than one year on a tree, that will require removal at any future time. By observing the form which a young tree should take, and rubbing or cutting off improper or unnecessary shoots in time, any severe pruning at a subsequent period, may be entirely avoided. Hence, the remark has much truth in it, that pruning-saws and axes should never enter an orchard—which is strictly correct in all cases provided the needless shoots have been lopped in time, when the work may be done with the pocket-knife only. A very common error is to allow the growth of too many branches, the result of which is they become overcrowded, a part die, the leaves and new growth are small and imperfect, and as a necessary consequence, the fruit is half grown and stunted. The head should therefore be left open, the branches few, and so evenly distributed through space, that none shall be crowded, and all subjected to the action of air and sunshine, and all continue thrifty and vigorous. A moderate share of care and attention to these particulars, might be made to give a very different report of our orchards, from that now presented by the great mass of apples sold in market. Larger prices, larger crops, and better satisfied purchasers, would be the result;—and most strikingly so provided good cultivation were given in connection with judicious pruning.

Now is the time that young orchards should be examined and treated in the way we have pointed out.

To Protect Young Vines from Bugs.

The idea that young vines may be protected from the depredations of bugs, by the application of soot, ashes, or any thing of the kind, is in my opinion a humbug. I have tried all such applications on my cucumbers, melons and squashes, without success.

The only way to preserve vines, is to place over each hill a box, say six or eight inches square and four inches high, and cover it with oiled gauze or glass. This is a sure method, and costs but very little. I plant my vines on very rich gravelly land, put about a quart of finely pulverized hen manure, covered two inches with fine earth, in each hill, water them occasionally with a mixture of one qt. hen manure to two gallons of water, taking care not to let it touch the plants or roots, and always am repaid by a good yield. S. Castleton, Vt., May 8, 1854.

Stone and Brush for Drains—Muck for Manure.

Will you be kind enough to inform me through *The Cultivator*, which is the best for filling a drain, brush or round stones? Also, what kind of land it is the most profitable to put lime on, and how much to the acre?

We have a large swamp near us that is covered with water. Would not the muck be advantageous as a manure? whether best applied alone? and to what kind of land? AN ATTENTIVE READER.

Stone will of course last much longer than brush, but if the soil is quite soft, or of the nature of quicksand, it will be nearly impossible to prevent its running in among the stones and choking the drain. If the draining is so effectual as to keep it quite dry at all times of the year, this difficulty will be lessened.

Brush, (especially if of the most durable kinds of wood,) is best for soft soils, where the quantity of water to be drawn off is never large. Even after it decays, it leaves small channels through the soil for the water to soak away. On account of its exclusion from the air in a great measure, brush will last much longer than if exposed. It is said there are instances where it has continued to answer a good purpose for fifty years.

There are many theories as to the kind of land most benefitted by lime; the best way is to try it on a small scale and observe the results. From fifty to 300 bushels are applied per acre. Magnesian lime, being very caustic, must be applied the most sparingly.

Muck is not unfrequently a good manure applied alone, but the best way is to drain the swamp, shovel out the muck, and let it become well dried under a shed, and then mix it with yard manure, when it forms a capital compost.

Destroying Canada Thistles.

"Is there any mode of eradicating Canada thistles from land, short of digging them out, roots and all? Is there a chemical agent that will destroy them? A man is traveling about here, selling a white powder, which dries them up when applied to the cut surface when mowed—he claims it will kill them *permanently*—please tell me what it is, and if there is any virtue in it?" S. H. W. Easton, Pa.

Canada thistles are easily killed on heavy soils, by plowing them under completely, once a month for the season, which smothers them, and the roots die. Unless the leaves, which are the lungs of a plant, can develop themselves above the surface, the plants cannot breathe, and will die in one season. The success of the operation depends of course, on keeping down every thistle plant below the surface. On light or gravelly soils, they cannot be so completely smothered, and in addition to the plowing, Boughton's "subsoil cultivator" or thistle-digger, described some months ago in this journal, and which is in fact a two-horse paring-plow, will prove an efficient auxiliary. Mineral poisons usually prove destructive to vegetables; but it would puzzle a very shrewd man to know a "white powder" some hundreds of miles distant, without ever seeing it. If it kills all the thistles above ground for one entire season, they must of course be "permanent-

ly" killed, for the reasons already stated; but such an agent could be of little value in any way, because the labor of applying to every individual in a thistle-patch of only one acre, containing probably a million stalks, would be no trifling task, compared to plowing in four or five times.

Awarding Premiums on Domestic Animals.

MESSERS. EDITORS—I have noticed a communication of Mr. SPENCER of Windsor, Vt., in the May No. of the *Cultivator*, on the subject of the most profitable breed of sheep to grow wool from. The thought occurred to me at once, that of all other men, Mr. Spencer, if not *best qualified*, was at least well prepared to answer his own questions, being as he says the owner of Silesian, French, Gaudaloupe and Spanish Merinoes. I have viewed with some surprise, for years past, the manner in which our Agricultural Societies have awarded premiums on sheep; they being given in most cases to pet animals. Now if you please, I will suggest an idea to all Agricultural Societies as to the mode in which Mr. Spencer's question should be answered.

Let a committee of one or three be appointed; put into the committee's possession a certain number of the different breeds of sheep in the country—let the expense of keeping each breed be accurately recorded for one year—then the profits—strike the balance, and the question is answered. When we talk of the profits of sheep, wool and mutton should both be considered.

This mode of testing the point, must necessarily be attended with some expense. I can think of no better, for testing the value of all our animals. If any gentleman can propose a better method, please be kind enough to divulge it. J. N. SMITH. Vergennes, Vt.

Nursery Trees.

I have lately contracted for various kinds of fruits from a nursery in Ohio, the agent being around making engagements to be delivered in the winter. Does a person usually get the kinds contracted for? Is it policy to buy fruit trees grown in Ohio and transplant in west Tennessee? Will it do to remove strawberries in December? An answer to the above in the *Cultivator*, will much oblige ALVAN HENRY. Purdy, Tennessee, May, 1854.

Two requisites in a nurseryman will insure the correctness of his trees, namely, honesty, and a thorough acquaintance with fruits and his business. If in addition to these, the agent is also a strictly honest, careful, and intelligent man, our correspondent will get the sorts he bargains for. We cannot, of course, decide on the probability, not knowing any of the parties. Trees grown in Ohio will transplant well into Tennessee, *provided*, as in all other cases, they are properly treated. We would never recommend the removal of strawberries at the commencement of winter, as they will be almost certain to be destroyed by frost, unless great care is taken to protect them, without smothering. Early spring is best; immediately after fruiting, is next best, and autumn worst, the later the more unsuccessful—although exceptions, from peculiar or unusual causes, will occasionally occur.

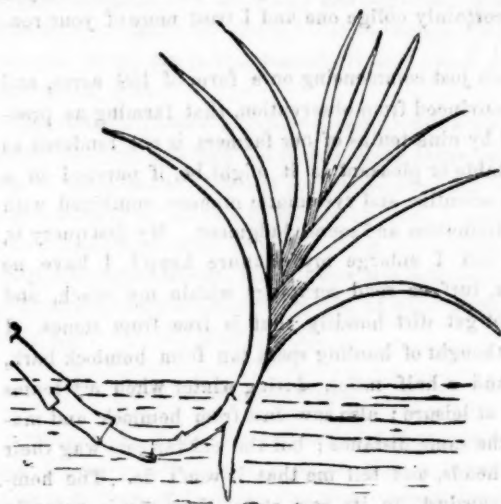
Depth for Setting Trees.

"Will a tree do better to be set four or five inches deep, in a tolerably rich loamy soil, than to be set only two or three inches deep? S. W. COWLES.

Trees should be generally set the same depth that they previously stood in the soil, allowing an inch or two, more or less, for the settling of the newly stirred earth. On heavy soils, they will be more injured by being planted too deep, than on those of a light sandy or gravelly nature, and where greater depth is needed to prevent the effects of drouth. On lands inclining to be wet, setting trees upon the surface, and raising the earth upon the roots, is a mode that has some advantages, among which are, the greater depth of soil thus made, and the prevention of water settling among the roots. The accompanying figure exhibits this mode of planting, the dotted line indicating the common surface of the earth, on which the tree is set, and above this the low mound is raised upon the roots.

Layering Carnations and Picotees.

The accompanying figure illustrates the ordinary and most successful method of increasing this lovely tribe of plants; for, if properly executed, success is pretty certain; whereas by "pipeings" or cuttings, it requires considerable care and attention to get them rooted.



The operation is simple, and performed thus: Prepare as many small pegs as required, and a little good soil, if the soil they are already growing in is not so, and lay just around the stems of the plants.

Take a sharp knife and trim off the leaves from the strongest shoots, to within a short distance of the top. Make an incision just below a joint, and halve the stem upward about an inch. This forms what is called the tongue, from which the main part of the new roots are emitted. Draw away a little of the soil, and secure the shoots by means of the pegs, in an upright position, and cover over with the soil. In about six weeks the plants will be formed, when they should be cut from the parent, and carefully transplanted, or they may be left, if not over luxuriant, till the ensuing spring before removal. Just as the bloom is over, or about the middle of July, is the proper time to do it. In dry weather, they will require watering every evening till rooted. E. S.

Over-Manuring Trees.

Please inform me if the Rhode Island Greening does well in a very rich soil. I have two trees of the above mentioned kind, standing in a yard formerly used for a pig-pen. Into this yard were hauled small stones, beach gravel and loam, and twenty-three years ago said trees were placed therein. Old bones and clamshells have been thrown around them in abundance, and they have grown very rapidly, the circumference of the trunk being respectively as follows:—No. 1, 4 ft. 2 in. No. 2, 4 ft.

The trees blossom annually and seem to pride themselves on a superabundant growth of wood, but, like the fig tree in the parable, they yield not fruit. What can the matter be? W. G. WARREN, R. I.

We have heard of the unproductiveness of the Rhode Island Greening from over fertility of soil, when planted in some of the richest portions of the western country—at the east, the great difficulty with most trees is scant feeding and starvation. If our correspondent will seed with grass, and allow a thick turf to cover the surface for a rod or two in each direction round the trees, so as to check its growth, he may in a few years have a good crop, provided too high manuring is the cause of the dropping of the young fruit, which appear probable.

Rotation of Crops.

Will you please give me a good system of rotation of crops, through the Cultivator? A SUBSCRIBER. Elliot, Maine.

Systems of rotation must vary according to the nature of the soil in different regions of country, the amount and kind of manure at command, the cleanness of the land, the nature of the market, and the proper distribution of labor. One of the best farmers we have known, had his farm laid out in equal fields, and adopted the following rotation:

- 1st year—Wheat after clover.
- 2d " Corn, potatoes and ruta bagas, with all the manure made that year.
- 3d " Barley.
- 4th " Wheat, seeded with clover.
- 5th " Clover, pastured.

A piece of low ground was kept for meadow, and was occasionally top-dressed, and rarely broken up and re-seeded. A rougher portion of the farm was occupied with summer-fallow, wheat, clover, and grass for pasture. This farm was a strong fertile soil;—poorer land would need a longer season in grass, which would admit a larger number of live stock, and as a consequence produce a greater amount of manure.

The following may be adopted, with variations according to circumstances:

THREE-COURSE SYSTEM.

1. Corn and roots, well manured.
2. Wheat.
3. Clover—one or more years, according to fertility and amount of manure at hand.

FOUR-COURSE SYSTEM.

1. Corn and roots, with all the manure.
2. Barley, or peas, or both.
3. Wheat.
4. Clover—one or more years.

Oats are always a severe crop, and an excellent farmer of our acquaintance who adopts the above, never permits oats to grow on good wheat land, but confines the crop to the more moist portions of his farm, adapted only to this and to meadow and pasture.

Agricultural Societies.

VIRGINIA STATE AG. SOCIETY.—The planters of Virginia have done themselves great credit by the liberality and energy with which they have come forward in support of their State Agricultural Society. We see by the Richmond papers, that the society has now about \$20,000 already invested, and subscriptions soon to be paid which will swell the amount to \$50,000. Their next fair is to be held at Richmond. The city council furnish the grounds necessary for the fall exhibition, properly fitted up, rooms for the officers of the society during the fair, with the necessary police, and pay the society \$1,000 in cash, while the citizens of Richmond pledge themselves to add \$5,000 to the permanent endowment of the society.

VT. STATE FAIR.—It is to be holden at Brattleboro' Sept. 13th, 14th, and 15th. The inhabitants of Brattleboro' generously pay into the Treasury of the Society two thousand dollars to be expended in Premiums. The National Sheep Fair is to be held at the same time and place.

THE JEFFERSON CO. AG. SOCIETY hold their fair at Watertown, Sept. 21st and 22d. Solon D. Hungerford, of Adams, President; John C. Sterling, Watertown, Treasurer; Willard Ives, Watertown, Rec. Sec'y; Hiram Holcomb, Watertown, Cor. Sec'y.

MADISON CO. AG. SOCIETY.—This society has issued their premium list amounting to over \$600, but we do not see the time stated when the fair is to be held. The officers of the society are S. P. Chapman, Clockville, Pres't; A. Morse, Eaton, Treas.; and S. Lincklaen, Cazenovia. Rec. Sec'y; R. D. Palmer, Lenox, Cor. Sec'y.

BROOKFIELD AG. SOCIETY.—Brookfield, in Madison county, has one of the most flourishing and efficient town societies in this State. Their receipts last year were \$496,76, and they had a balance in their treasury at the close of the year of \$282.92. We have received their premium list for 1854, which enumerates nearly 250 prizes, well calculated to draw out a full exhibition of all the domestic and agricultural products of the town. The premiums are payable mostly in agricultural works.

FRANKLIN CO. AG. SOCIETY.—Their annual exhibition is to be held at Malone, on the 20th and 21st of Sept. The Society appears to be in a flourishing condition, having a balance of \$323,28 on hand at the close of last year's doings. James Duane, Pres't; H. S. House, Sec'y; H. H. Hosford, Treas.

YATES COUNTY FAIR—at Penn Yan, September 14 and 15.

MIDDLESEX (Ct.) AG. SOCIETY.—The next show of this well managed society, is to be held at Middletown, on the 27th, 28th and 29th of September. We have from its efficient Secretary, Mr. D. BARNES, a pamphlet copy of its constitution, by-laws, specifications for premiums &c., which give evidence that the society is managed by sound and discreet men.

The Burlington Co. (N. J.) Ag. Society will hold their next fair at Mt. Holly on the 3d October. Their prize list embraces an unusual number of premiums, most of which are to be paid in books, &c. of permanent value to the recipients. GEO. B. DEACON, Burlington, President; B. BUCKMAN, Secretary.

TRUMBULL CO. (O.) AG. SOCIETY.—This society has offered a liberal list of prizes for its next Fair, which is to be held on the 4th and 5th of Oct. Among them are a large number of agricultural periodicals, including the Cultivator, Country Gentleman, Ohio Cultivator, and Ohio Farmer.

The Brockville (C. W.) Hort. Society has issued a liberal premium list for the present season. It includes the usual Horticultural subjects, and an exhibition of Poultry. The Summer Exhibition is to be held on the 29th of June, and the autumnal on the 14th Sept.

Information Wanted.

HORSE-POWERS.—I would like to learn through your columns, which is the best kind of horse-power for a farmer with two horses—the sweep or endless chain, to be used for threshing, chopping fodder, &c. Any of your readers who are acquainted with both, and will communicate on the subject, will confer a favor on M. S. B.

DISEASE IN LAMBS.—I wish you or some of your correspondents to give us, through *The Cultivator*, the cause of and cure for a complaint with which several of our best lamb-raisers have found themselves put to the worst or unable to cure. A lamb is first taken with a stiffness in the neck, and is troubled to raise its head sufficiently to suck—a swelling is seen near the shoulders—the lamb droops and generally in a few days dies. If you can furnish us with a cure it will save the lives of many of our finest lambs. A STEUBEN SUBSCRIBER.

MESSRS. EDITORS.—I have been for several years, an attentive reader of *The Cultivator*, and would not take fifty dollars per year for what I have learned from it, which I consider a large percentage on the cost of it. And now with your leave, I wish to make a few inquiries, which if you, or some of your correspondents who have had experience, will answer, you will certainly oblige one and I trust more of your readers.

I am just commencing on a farm of 150 acres, and am convinced from observation, that farming as practiced by nine-tenths of our farmers, is not rendered as profitable or pleasant as it might be, if pursued in a more scientific and systematic manner, combined with discrimination and sound judgment. My first query is, how can I enlarge my manure heap? I have no muck, turf, or road scrapings, within my reach, and cannot get dirt handily that is free from stones. I had thought of hauling spent tan from hemlock bark, two and a half miles, during winter when my teams were at leisure; also saw-dust from hemlock and maple, the same distance; but the old farmers wag their sage heads, and tell me that it won't do. The hemlock sawdust, in its raw state, they say is actually injurious. Now cannot one or all of these articles be incorporated with the stable manure, and managed in such a way as to pay cost?

How shall I manage thirty loads of manure which I now have, and wish to apply to rye and wheat ground in the fall? A great proportion of it lies in heaps as thrown from the cattle stalls, which were littered with cut straw. If it lies in heaps until used, much of it, even after a thorough harrowing, will be left in lumps from the size of my fist up to that of a quart measure, and common sense teaches me that I do not get as much benefit from it as I would if it could be well pulverized before applying it. Will piling it up loosely, and turning it during the summer, pulverize it without any loss by heating and evaporation, and if so how often must I turn it.

Will G. A. HANCHET please inform me what kind of feed cutter he uses, and also whether his engine is movable—if not, it seems necessary that the house and barn should be quite near each other.

I would be pleased also, to have some one suggest the plan of a barn, for the accommodation of thirty head of cattle, a span of horses, and their fodder, on a farm where but little grain is raised.

If I make my stables on a level with the sills, and use the basement for manufacturing manure, would it ever be necessary to throw in water to keep it sufficiently moist?

It is an idea, which I am happy to see is gaining favor with our farmers, that it is necessary to bring pure water into the cattle yards, where it may be at all times accessible for the stock, and as I have myself a preference for cement pipes instead of lead ones, I would suggest to some enterprising Yankee the idea of engaging professionally in the construction of them, believing that practice would enable him to do it as cheaply as the farmer could do it himself or get it done by inexperienced hands, and at the same time leave a margin for profit and for his expenses in removing from place to place. A YOUNG FARMER. Kent, Conn.

BAKEWELL CATTLE.—I wish to make the inquiry through the Cultivator, for Humphrey's importation of Bakewell cattle. Is there any thorough-bred stock of this kind in the United States? If so, where is it, and on what terms can it be obtained? H. BALDWIN. Hudson April, 1854.

CULTURE OF HORSE-RADISH.—MACHINE FOR GRINDING.—Having land capable of producing large quantities of horse-radish, I would give some attention to the cultivation of it, if, at a moderate expense, a machine can be procured suitable for grinding it for table use. Will you please inform me if there is a machine that will answer my purpose; where and at what price, can it be had? W. G., Warren, R. I.

Cement Pipe.

MESSRS. EDITORS.—In looking at a late number of the *Country Gentleman*, I notice that a correspondent is desirous of learning the best mode of bringing water to his buildings, and if water-lime or cement pipe can be put down with safety. I see what Mr. P., Ohio, says on the subject, which is good; yet as your paper is for exchange of ideas and improvement, I will give you a little of my experience. For eighteen years I have been engaged a good part of my time, in the cement business, forming cement cisterns without stone or brick, and putting down cement pipe, and raising water with the hydraulic ram, which I have on hand of the latest improved and the best in the U. S. I think my method of putting down pipe is less laborious and safer than that of your Ohio correspondent.

1. In the ditch, I have never had any damaged by frost, put down only two feet.

2. For inch-bore, I have a moulding box, three feet

long, four inches wide on the bottom, three at top, three and-a-half deep—the moulding rod three feet and-a-half long of turned iron—attached to the moulding rod, three wooden rods covered with copper, and one of wood on the last end—the four, two feet long—all connected by staples that make them three-fourths of an inch apart—the length of rod eleven and-a-half feet.

In digging the ditch, the earth should be all thrown on one side. On the clear side, I place once in about eight rods, one barrel of cement and sand to mix. A light stone-boat is handy to mix on. Place this on the clear side of the ditch. I have one man to mix. I then unfold the iron moulding rod, place the mould on the bottom of the ditch, throw it half full of cement, then bring down the moulding rod on to a gauge on the end of the moulding box, then fill up the mould, smooth it off on top of mould, draw the rod, and set your mould, and keep along; and if the cement is right, by the time the last rod is drawn in, it will be hard enough to throw back the earth. It is best in long runs, to put in breathing pipes once in fifteen rods.

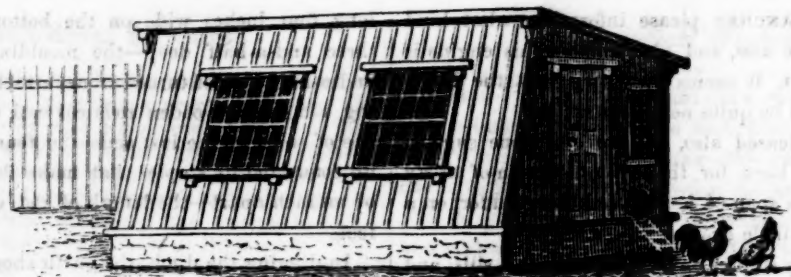
The question is asked, what is the difference between three-quarter inch cement pipe, and half inch lead? I estimate the lowest kind of half-inch fountain pipe at one dollar and eight cents a rod. The expense of one rod inch cement pipe would be seventy-two cents.

The question is asked, can tiles be cemented so that they can be used as lead pipes, for hydraulic rams? From my acquaintance with tile, I think it could not be used.

Those not acquainted with the mode and expense of raising water, by sending a survey to me, with the amount of water running from the spring, I can give them a correct estimate of the expense, and the amount of water discharged through the lead pipe. I devote my time exclusively to the Hydraulic business. A. BUTTERFIELD. Post Office address, Colosse, Oswego Co., N. Y.

Reaper and Mower Combined

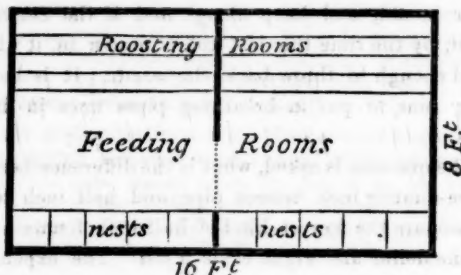
MESSRS. EDITORS.—We notice in the May No. of the Cultivator, an inquiry by B. N. Branner, "which is the best reaping machine, and whether there is a reaper and mower combined, which is as good as the reaper without the mower." There are several reapers in this neighborhood of Hussey's patent. Three of these are reapers and mowers combined, and have answered both purposes well. We have had one in use for two seasons, and last year mowed about twenty acres of heavy, and in some places lodged, clover and timothy, in the most satisfactory manner. This machine cuts equally well through wet and dry grass; indeed we think the management of the knives cannot be easily excelled, but believe, however, that the attachment of a reel, when cutting wheat, would be a decided improvement, as it is now necessary to drive too fast when a fresh wind blows the grain from the machine. L. H. & J. P. MACHEN. Walney, near Centerville, Fairfax Co., Va. June 13th 1854.



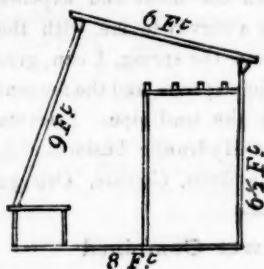
CHEAP POULTRY-HOUSE.

Cheap Hen House.

[The following was sent us some time since, in answer to the inquiry of another correspondent. We have delayed its appearance longer than we intended, and we hope it may afford valuable hints to those about to erect such buildings.]



MESSRS. EDITORS—Observing in a late No. of your excellent journal, *The Cultivator*, an inquiry for the best Coop to accommodate Poultry, I have thought it not out of place to send you a drawing and plan of one we consider the best, as it can be made to accom-



modate from one dozen to five hundred fowls. The plan I send is 16 feet long by 8 feet wide at the bottom, and costs, by using one-inch matched boards, about \$1 per foot. The present one will cost from \$16 to \$20, including sash

doors and other fixtures. The engravings exhibit the plan so clearly that they require no explanation. J. RAMSEY. Middletown, Ct.

In connection with the above, we give the following from an English paper:—

First, of the roost and nest house. The floor should be sprinkled with ashes or loam or pulverized peat or fine charcoal, and the floor should be cleaned off every week.

"The yard should contain a grass plat, some fine gravel, slaked lime, dry ashes, and pure water. The nests should be lined with moss heath or straw. Evidently the Dorkings are the best breed; they will lay an average of 185 eggs each per annum. Fowls with black legs are best for roosting, while those with white legs are best for boiling. If you want them to sit early leave the eggs under them. Fowls in their native habits never lay more eggs than they can hatch. Remember that no success can be expected from poultry-keeping if their houses be damp, cold, unclean or badly ventilated; if their food does not approximate to that which they get in a state of nature, viz., a mixture of animal and vegetable food; if the water they drink be stagnant, the drainage of the manure heap, &c., or if the strongest and handsomest be not bred from.

Feeding Straw to Cattle, &c.

MESSRS. EDITORS—The great scarcity of fodder the past winter, and the loss and suffering occasioned by it, ought to serve as a caution to farmers against the unnecessary waste of their straw. I consider the practice of using straw for bedding, a bad one, especially where leaves or saw-dust can be obtained. The amount of straw used for bedding a cow, if fed properly with three or four ears of corn a day, would carry her handsomely through the winter. Good bright straw is about as palatable, and nearly as nutritious as hay. Then why waste it, by throwing it under their feet? Saw-dust, or leaves from the forest, is better than straw for bedding; and they absorb the liquids better, and add more to the stock of manure.

Another argument for feeding instead of wasting straw, especially in this section of country, is, that it is becoming very common for cows to sink their calves during the winter, and it is generally believed to be caused by the smut on the June grass, which is getting into nearly all the meadows in this part of the country. I have known of many large dairies nearly ruined in this way. Only one instance of this kind has ever happened in my dairy, and that was when I was feeding hay only. If we keep our stables warm, dry and clean, and use the currycomb freely, our stock will do well enough without bedding.

To prepare my corn for feeding, I fill a cask with it, in the ear, pour on boiling water, and let it stand 24 hours, when it will be soft, and easy of digestion; but it has occurred to me, that an apparatus might be constructed for steaming corn, which would be still better. I would like to get, through the *Cultivator*, some information on this subject. J. H. WOODBURN. Gustavus, Ohio.

Feeding Breeding Sows.

MESSRS. EDITORS—I see in the last *Cultivator*, an inquiry respecting breeding sows fed on beech nuts. It sometimes happens that pigs will die when fed on grain, especially corn, which I think is as bad as beech nuts. Corn or beech nuts are very binding in their nature, and make the animal very costive. Anything given to the sow, that will keep her bowels loose, will give you a litter of live pigs. Feed plenty of salt, and if you have a dairy, and "deacon your calves," feed them to the sows, and two or three of the first milkings of the cows. Breeding sows want a warm nest and plenty of exercise. OTSEGO.

Worms in the Heads of Sheep, &c.

MESSES. EDITORS—I notice in the *Country Gentleman*, an earnest inquiry about the preventive or cure of the grub in the sheep's head. Having had considerable experience with sheep, I have learned to think that the best and most sure preventive as well as cure for this difficulty, consists in the keeping, care and attention bestowed upon the flock at all seasons of the year.

I believe this insect or grub is natural to the sheep, though the seed or egg may be deposited by a fly. They can be found in the head of the sheep at all times, whether the animal is in good health or otherwise; and putting tar upon the noses or into the mouths of sheep, (though it is a healthy article to use in this way, and will no doubt promote the general health of the animal, as I have been convinced, by its use in my own flock,) will not prevent the grub from generating in the head.

Let a flock of sheep be uniformly kept, throughout the year, in a good thriving condition, even if it requires grain or roots, or both, at certain seasons to do this, with as much pure salt as the appetite craves, and running water in the yards or pasture, and they will seldom die by the ravages of the grub or other diseases. Sheep are not so hardy as mules, colts, or horned cattle, particularly our fine-wooled races, and require a generous regularity of feed and keeping; and under this system of treatment they are no more liable to disease and mortality than other domestic animals.

By coming in contact with contagious diseases, such as the itch or scab, and rot foot, they will take the inoculation; but the remedy is at hand, and the disease easily cured if taken in its incipient stages. Particular care should be taken that the flock does not run down in flesh, late in autumn, when the grasses are rapidly losing their nutritious qualities, and becoming scant in quantity,—a time as we farmers say betwixt hay and grass—they should receive some grain to make up for the innutritious quality of the herbage—about one-half bushel shelled corn to each one hundred sheep, thrown upon the short grass in handfuls; they will pick up every kernel, and much good it will do them.

Again in the spring, is another season "betwixt hay and grass." After the days become warm, they lose their relish for dry hay, and the corn should again be scattered upon the grass, or its equivalent in roots; or a better way yet is, to feed a small quantity of grain daily through the winter, in troughs in the yards, say one gill of corn, or double this quantity of oats to each. In this way they will sustain themselves well in the yards two weeks later in the spring than by nothing but hay, and hay of poorer quality can be used than if no grain were fed; and all the better if a generous feed of roots once or twice each week is given through the winter.

But a little more about this magot in the head. Sheep kept in the way I have described, are prepared

to sustain themselves against his attacks, formidable as he is. The system is strong and healthy, and with a cough and a violent sneeze, out they come from the nostrils, a regular full grown grub. I have often seen them in my sheep yards, and about the salt box and water trough. A sheep low in flesh and sickly, has not the strength to discharge or eject this insect from the head in the way nature designed, and death follows. There is another theory of the case, with some plausibility to support it. In a strong well-conditioned sheep, there must be more matter upon the inner surface or mucous membrane of the head, for the worm to feed upon, than there is with the poor sheep, and less likely he would be to attack the brain or vitality of the head, even if he were not ejected thro' the nostrils.

I occasionally lose a good sheep from some cause unknown. It may be the grub in the head, but I have no fears of its becoming an epidemic in my flock, nor do I think your inquirer need be alarmed if he keeps a large flock, and has lost but three by this disease; he probably keeps well, or his loss would have been greater. I have known from one-fourth to one-half of flocks of one hundred or over, die off with this disease in a single winter, and have heard the wail and complaint of the owners about the incurability of this dreaded malady, when the poor animals were so low in condition, for the want of care and feed, that there were not left vigor and vitality enough in them, either to eject the grub from, or keep him in the head, without furnishing their brains for food. Writing upon this subject brings to mind a remark of a shrewd neighbor who has gone to a better world, who would insist that the owners of these flocks were mistaken in the name of the disease; says he, "it is not the grub in the head, that kills these sheep—it is the straw in the belly." I was inclined to adopt his opinion. J. W. COLBURN. *Springfield, Vt., May 15, 1854.*

We thank Mr. COLBURN for the above. It should be carefully read and remembered by all farmers whose sheep are troubled with the disease alluded to. In the *Prairie Farmer* for May, we find an interesting article on this subject, which we shall copy hereafter.

Docking Lambs.

In the October number of last year, "A Farmer" objects to the practice of docking lambs—thinks it a barbarous practice. I am as far from giving unnecessary pain to animals, perhaps, as he or any other individual, but I have yet to learn why docking is a more unnecessary or barbarous custom than castrating or butchering, either of which I have never heard objected to.

Should "A Farmer" follow the business of rearing lambs, especially from Merinoes, he would probably become satisfied in time that it is necessary and profitable to have his breeding ewes docked short, to keep them clean and insure lambs.

I have a more convenient method I think of stopping the blood than Mr. Jewett's, which consists in the application of a small quantity of green arsmart bruised and applied immediately to the wound, which is a powerful styptic, contracting the ends of the ruptured blood vessels and stopping the flow of blood instantly.

The weed arsmart, smart weed, &c., alluded to above, is called by some botanists *Polygonum punctatum*, by others *Aqua piper*. CHAS. BABCOCK.

The Poultry Yard.

REMEDY FOR THE GAPES IN FOWLS

MESSERS. EDITORS—I have had five or six broods of chickens hatched this spring, every one of which has died. When from two to three weeks old, they were taken with the *gapes*, and after a few days, despite change of food, and such other remedies as were recommended, they invariably expired. Pills of lard rolled in pepper, were confidently recommended, but they did no good. Black and red pepper were both tried. Indian meal mixed with onion water, was of no avail. Wet food, dry food, vegetable and animal food, did no good whatever. My neighbor who lives but a few hundred feet from me, is not troubled at all. Last evening I called upon a gentleman who is a very successful raiser of poultry, and communicated to him my sad experience, and desired to know the cause of the complaint. That, said he, is what I should like to know, but if you desire to know the *remedy*, come with me into the fowl yard and I will show you how to cure the disease. There I found he kept a clam-shell filled with spirits of turpentine and a feather stripped of the barb. Catching a chicken which gave evidence of illness, while another person held it, he placed the fore finger of his left hand under the chick's bill or throat, which caused it to open its mouth, then caught and held the tongue (which was drawn well forward) by the thumb nail of the same (left) hand; then dipping the feather in the turpentine he thrust it down the chick's windpipe, giving it a twist; as soon as the feather was withdrawn, the chick coughed and threw up what looked like a string of clotted blood about an inch long and as thick as a darning needle. Upon examining it with a magnifying glass, this clotted mass was found to consist of several worms of an eel-like shape. The gentleman assured me that the presence of these worms in the windpipe was the cause of the gape, and his remedy was an effectual one. He says that the operation seldom required to be performed the second time on the same chick, and that he had acquired such skill in the performance of the operation that very rarely was a chick injured by it. In this case he was not more than half a minute and the bird ran off when freed, apparently uninjured.

To my mind it is proved that the death of my chickens was caused by these parasites, but the remedy in the hands of any but a skillful operator would be severe if not barbarous, and this case forcibly illustrates the old saw, "an ounce of preventive is better than a pound of cure." Now can you or any of your readers tell how these parasites are produced and what treatment is necessary to prevent their formation. It is very clear that any medicine powerful enough to kill the worm in the windpipe, would kill the chicken first. Yours respectfully, GEO. W. SAVAGE. *Rahway, N. J.*

The insect alluded to above, was figured and accurately described by Mr. C. E. MORTON, of Orange county, in *The Cultivator* for 1844, p. 305. We copy Mr. MORTON's remarks on preventing the disease,

There is one fact connected with this disease—that it is only old hen-roosts that are subject to it; and I am of opinion that where it prevails, if the chicken houses and coops were kept clean and frequently whitewashed with thin whitewash, with plenty of salt or brine mixed with it, and those chickens that take the disease, operated on and cured, or if they should die, have them burned up or so destroyed that the eggs of the worms would not hatch out, that the disease would be eradicated.

I am also satisfied that the chicken has not the disease when first hatched; several broods that I carried and kept at a distance from the chicken house where the disease prevailed, were entirely exempt. And chickens hatched from my eggs where they had never been troubled with the disease, were perfectly free from it; and a neighbor of mine who built in the wood half a mile from any dwelling, and has raised fowls for six or seven years past, and has frequently set my eggs has never had the gapes among his chickens.

With my first broods of chickens, there was not one escaped the gapes. But all that have been hatched since I had the chicken-house and coops well whitewashed inside and out, with thin whitewash, with plenty of brine in it, and kept clean, have been exempt from the disease, with occasionally an exception of one or two chickens out of a brood.



SEBRIGHT BANTAMS.

The Bantams are the least in size of all the gallinaceous tribe. There are many varieties, some of which are very beautiful birds. Among the handsomest are those known as Sebright bantams, which are thus described by Martin:

"It is very small, with unfeathered legs, and a rose comb and short hackles. The plumage is gold or silver spangled, every feather being of a golden orange, with a glossy jet black margin; the cocks have the tail folded like that of a hen, without the usual recurved drooping sickle feathers, or rather these feathers are abbreviated, straight or nearly so, and broader than usual. Hence the term *hen-cocks* often applied to them. But although the sickle feathers are thus modified, no bird possesses higher courage, or a more gallant carriage. The attitude of the cock is indeed singularly proud, and we have often seen one of them bear himself so haughtily, that his head, thrown back as if in disdain, has nearly touched the two upper feathers of his tail. Half-bred birds of this kind are not uncommon, but birds of the pure breed are not to be obtained without trouble and expense; indeed, some years ago, it was almost impossible to procure either a fowl or an egg."

A box 8 inches by 8-4 inches square, and 8 inches deep, will contain one peck.

Answers to Inquiries.

MANURE CELLARS.—(*W. F. Brand, Emmerton, Md.*) We have never been strongly in favor of cellars as depositories of manure. Unless on sidling ground, so as to admit of opening level on one side, there would be great difficulty in shoveling out from them two or three hundred tons annually. Even if on a level, the manure wagon would have to be "backed" in, both in loading and in depositing any turf, peat, or other substance used for intermixture. Besides these objections, cellar room is too valuable for other purposes, while a contiguous yard will answer equally well for manure, and prove much more convenient, for loading and unloading, and for the approach and egress of teams. We should much prefer making large piles of compost in the yard, by depositing successive layers of turf from fence corners, &c., with the manure; and if necessary all this may be done under a broad and high open shed, to protect from the washing of rains, although even this is not necessary if the turf, peat, loam, &c., are largely used in the stratification and covering of the heap. —

REAPERS AND MOWERS.—(*H. Baldwin, Hudson; E. J. Horan, Quebec; and others.*) A very uneven surface cannot be mowed with a mowing machine—nor stumpy ground, unless the machine can pass round the stumps. Ketchum's mower is never used as a reaper. Our correspondents will find such answers as we can give, to the rest of their inquiries, in the 64th No. of the Country Gentleman, and in the Cultivator for May, p. 162. —

CLOVER.—As you seem ever ready to answer inquiries, I wish to inquire the best method of treating clover, to insure a vigorous growth of the plant. Some contend that clover which has been sowed in the spring, should be pastured off as soon as the grain is harvested in summer, and that clover intended for pasture, should not be suffered to become large in the spring, before turning in, as frequent cropping insures a more vigorous growth of the root. Others maintain that clover sowed in the spring, should not be pastured in the fall, or at least not till the approach of winter when the plant has ceased growing, and that it is better not to pasture clover in the spring until it is nearly or quite in blossom—that by keeping a short top the growth of the root is retarded. Which is right? *H. J. P. New Paltz Landing, April 15.*

The growth of all plants is retarded by removing the leaves, when the root remains entire. The growth of the root and stem always vitally depends on a large and healthy foliage. Hence, the roots of clover will not grow so large when cropped close. Actual and accurate experiment has confirmed this theory—roots with fully grown tops when carefully dug up being found decidedly larger than those kept cut down.

"TERRA-CULTURE."—(*S. W. Cowles, Unionville.*)—This is a term applied without any peculiar appropriateness, to a particular theory of cultivation, having no claims to originality, but held as a secret, by a man by the name of Comstock. We have been informed that the theory consists chiefly in "following nature," by sowing seed without covering, planting trees shallow, discarding pruning and grafting, &c.

Trees scatter their seeds in forests, in the shade, to be covered with falling leaves; but in open ground a covering of soil must be substituted for the shade and newly forming mould. Hence this theory will not apply to field culture, any further than it has been known from time immemorial by good cultivators, that burying seeds too deeply will prevent their germination. Every skilful fruit-raiser knows that trees should not be set too deeply in the soil, but that the depth must vary with circumstances, size of tree, lightness or moisture of the soil, &c. In short, the theory is a blundering mixture of truth and error, without discrimination between the two, with a claim to originality without any foundation.

PARSNEPS AND BUTTER.—A correspondent writes in a late letter for information on the subject of the bad effects of parsneps on butter making, and furnishes the following facts:—"Our nearest neighbors churned the other day, I believe nearly all day, but the cream produced no butter; and on the next day a further trial was made with no better success. They then went into the pasture and found parsneps—seed having scattered from the garden—and their cows having eaten them, they ascribe their failure in the dairy. They assure me that in Clinton county whence they came, this plant was known to produce similar effects. Our cows feed in a lot adjoining, where there are no parsneps, and we have had to churn scarcely five minutes for butter. Have any of the readers of the Country Gentleman observed any thing corroborating this statement?"

DESTRUCTIVE INSECT.—Our correspondent J. BINGHAM, of Hudson, N. Y., mentions an insect found very abundantly on elm trees at that place; and proving destructive to the foliage, and inquires for a remedy. The proposed insertion of any poisonous substance by boring into the tree, if producing any effect, would probably injure or kill the tree, judging from other experiments. Mineral substances which prove poisonous to animals, are generally destructive to plants. Vegetable poison affects the former, but not the latter. We cannot suggest a remedy in this case, as we know nothing of the character of the insect, nor even whether it is a larva or perfect insect. The pear insect we have no knowledge of.

CISTERN FOR FARM ANIMALS.—"Will rain water from a cistern kept under ground, answer for general purposes for feeding and watering horses, hogs and cattle?" *S. W. C.*

Good cleanly kept cisterns of this character, will afford good water for such purposes, and which we have long been in the practice of using without any detriment.

GAPES IN CHICKENS.—"A subscriber," will find his inquiry on this subject, fully answered in the 73d No. of the Co. Gent. and in the Cultivator for July.

A SUBSCRIBER, New York.—You will find an answer to your inquiry about your ice-house in the June Cultivator. It came too late for the May no. If you had furnished your address, we should have written to you promptly.

Notes for the Month.

FARM IMPLEMENTS, and the Principles of their Construction and Use; an Elementary and Familiar Treatise on Mechanics, and on Natural Philosophy generally, as applied to the ordinary Practices of Agriculture. With 200 engraved Illustrations. By J. J. THOMAS. Harper & Brothers, New-York.

This is a beautiful volume of 268 pages, which came to hand too late for suitable notice this week. We shall hereafter notice it at length. In the meantime we copy the following from the New-York Evangelist of last week.

FARM IMPLEMENTS.—An essay prepared for the New-York State Agr. Society, with this title, has been issued, which has a more than ordinary value. It is a practical elucidation of the principles of Natural Philosophy brought into use by the various farming implements and agricultural machinery now in vogue. The author is both farmer and scholar; and he has gone into an explanation of the philosophy of all the every-day implements of the farm, with the design of making it familiar to the commonest understanding. The advantages of agricultural machinery could in no other way be so clearly demonstrated. It abounds in illustrations, and is written in a simple, straightforward style, adapted to impart dignity and intelligence to this earliest and noblest of human callings. (Harper & Brothers.)

✍ We desire to call the attention of our readers to the valuable communication published this week from our correspondent, Mr. S. W. JOHNSON, who is, we are happy to learn, now prosecuting his studies under the celebrated LIEBIG, at Munich. His paper will be found exceedingly interesting and full of information. We should be glad if any of our scientific men would take the trouble to perform some of the experiments which he suggests, and the importance of which will be apparent to every reader of his careful and able reasoning. We trust ere long the theory and practice of agriculture will both receive that minute study and accurate investigation which they now need so much, and which can alone make them accord in increasing the profits and elevating the social position of the farmer. The obstacles now in the way of this much to-be desired result do not consist, so much as formerly, in the farmer's opposition to the application of science to his craft; they are the same that impede the first steps of progress in every art,—the safe teachings of science are carried to unsafe extremes; interested quackery and dishonest charlatanism rush forward for gain, until the true aim of science is forgotten and reproach is brought upon its teachings.

IMPORTATION OF SILESIAN SHEEP.—We are happy to be able to announce that Mr. GEO. W. CAMPBELL of Westminster West, Vt., and Mr. CHAMBERLAIN of Red Hook, have just received in good condition 60 Silesian Ewes and 13 Bucks, by the steamer Washington. Mr. WM. H. LADD of Richmond, O., has, as we learn, taken an equal interest with Messrs. Campbell and Chamberlain in this and future importations. He is an excellent judge of animals; and it is his opinion


that the Silesian is the breed of sheep best adapted to the wants of the American farmer. He contemplates soon making a visit to Silesia for the selection and importation of the best specimens of the breed to be obtained.

BUTTER FROM AN AYRSHIRE YEARLING.—An Ayrshire Heifer belonging to the herd of E. P. PRENTICE, Esq. of Mount Hope, only seventeen months and three days old, and weighing herself 550 lbs. produced, during the last week in May, 9½ lbs. of butter. She had nothing but the ordinary grass feed of the other cattle.

TRANSACTIONS OF THE ROYAL HAWAIIAN AG. SOCIETY.—We are indebted to J. S. GOWER, of Makawao, East Maui, for a copy of the Transactions of the Royal Agricultural Society of the Sandwich Islands. It is a neatly printed octavo of 170 pages, and is filled with the reports of the officers and committees of the society, its list of premiums, and the address of the President at the last annual meeting, June, 1853. The past year is represented to have been one of comparative agricultural prosperity, and the reports show that praiseworthy efforts are making to render the cultivation of the soil a more safe and profitable calling. The produce of sugar on these islands amounted the last year to \$100,000, and the crop for the coming year promises to be twice as large. Still, says the secretary, "we have thousands of acres of first-rate cane lands now vacant and idle, which with capital, enterprise, and labor, are capable of producing enough to pay for all the goods we import." The raising of wheat is receiving attention, and it is hoped that bread-stuffs will soon be raised in sufficient quantity to supply the home demand. The cultivation of Indian corn and potatoes is carried on to a greater extent than ever before, and the experience of every year is teaching the natives how to obviate the disadvantages of their soil and seasons, and secure more abundant crops. The culture of Fruit, particularly of the vine, is urged as adapted to the soil of these lands, and experiments are making in that direction. Animals of the best breeds, horses, cattle, sheep and swine, have been imported to a limited extent, and in short, those who have charge of the society, seem determined to leave no stone unturned in the way of improvement. These efforts are the more praiseworthy from the fact that there are many natural, as well as artificial difficulties to be overcome in elevating the character of the agriculture of these islands. The results, thus far, are most hopeful, and we trust that the good work so spiritedly commenced will be persevered in with continued energy.

OLD STATE HALL.—The Legislature has appropriated \$25,000, for the enlargement and re-modeling of the old State Hall, occupied by the Geological Museum and the State Ag. Society. The improvements contemplated are to be under the charge of the Commissioners of the Land Office, and will we trust, be completed soon. They will add increased attractions and value to the extensive collection of Geological and other specimens, as well as the long needed facilities for the Museum of the State Ag. Society.

ADULTERATION OF GUANO.—It needs no argument to show that farmers who purchase concentrated manures, should procure them of manufacturers of strict integrity and veracity. A case in illustration recently occurred in England, where a dealer at Exeter had bought largely of merchants at Bristol, an article which proved bad, and in an action at law to recover damages, it was proved that the merchants had sent the dealer a false and fraudulent analysis, forged for the occasion; and their foreman stated on examination, that loam, sand, turf-ashes, and salt, were largely used in the manufacture of this artificial guano; that the various ingredients were mixed with a shovel, and that it took about 10 hours to prepare 50 tons. Wonder if these manufacturers placed the notice "no admittance," over the door?

 We regret to hear that the Livingston Co. Importing Association met with a very heavy loss on the passage of their stock from Liverpool. They were shipped on a sail vessel, and twelve head, just one-half the number purchased, died on the voyage. Those that were brought safely through have arrived at Geneseo, and are doing well. These losses on ship-board are a very serious drawback to the importation of cattle.

COTSWOLD SHEEP.—A correspondent wishes to procure a pure Cotswold or Oxfordshire buck, not from the flocks of either Col. Ware of Virginia or Messrs. Reybold of Delaware. He wants it, we infer, to infuse new blood into sheep from those flocks. If any of our subscribers have such animals to dispose of, they will please inform us.

MINNESOTA.—A correspondent at St. Paul, under date of June 3d says—"There is, I apprehend, no country where all the requisite qualifications for a farmer are so abundant as in Minnesota, including good prairie soil, with wood and water for the most part contiguous, together with a fine healthy climate and good present and prospective markets. Here in one word are combined all the natural elements by which any man may develop and ennoble himself up to the high standard of the country gentleman as taught in your paper. More especially will this apply to the Cannon river country, which is somewhat inland on the west side of the Mississippi river, it being from fifteen to forty miles from the different landings on that river. I am induced to believe, from personal observation and otherwise, that the Cannon river country is by far the best portion of the territory, or indeed of all the North-West, for agricultural purposes."

CLEANING WALL PAPER.—Neat housekeepers are familiar with the practice of cleaning wall paper by rubbing it with pieces of bread; but a correspondent of the Ohio Cultivator who signs herself "*Sun Bonnet*," says she can clean it "just as nice, with less than half the time and labor" by enclosing a quantity of wheat bran in a bag of *thin open flannel*, and rubbing the paper with this, shaking it up occasionally to keep the surface fresh. If flannel cannot be readily

had, *strainer-cloth* will answer. If needful, it may be attached to a pole and used on a high ceiling. Badly smoked paper may be greatly improved by this means.

WHEAT CROP IN OHIO.—Extract of a letter from a subscriber at Zanesville, dated June 10.—"This Zanesville is the Rochester of the West for Milling, consequently the wheat crop is with us a great staple. The prospect for the coming crop is not by any means good, much of the wheat will be fit to harvest by 1st July; the Fly has destroyed much; the queer weather of last winter much more; and now the Midge, (or as they call it here the Red weevil,) has commenced its ravages. This is its third season with us. In short there will scarcely be more than a half crop in this and the neighboring counties from which our five mills draw their supplies. This is no croaking, but a reliable opinion."

BUTTER FROM AN ALDERNEY COW.—It appears by a statement in the Boston Cultivator that from the milk of an Alderney cow, called "Flora," 5 years old in April last, there was made from the 11th May 1853 to the 26th April 1854, the extraordinary amount of 511½ pounds of butter. Flora is owned by Thos. Motley, Jr., Jamaica Plains. Mr. M. says—"From Nov. 8th till the time we stopped making butter, she had about a half bushel of either ruta bagas or carrots, and two quarts of corn and cob meal per day, in addition to hay, or most of the time oat straw fodder. The last 3 months it took almost exactly five quarts of milk to make one pound of butter. She is to calve June 10, 1854."

FEMALE EQUESTRIANISM.—At the next exhibition of the Allegheny Co. (Pa.) Ag. Society, a horse valued at \$200, is to be awarded for the best display in this much-to-be-praised accomplishment.

HOW TO MANAGE STOWELL CORN.—The Ohio Cultivator gives the following method of treating this corn so as to make it good for winter use—the old mode of trying to keep it green in the husk having generally proved a failure. Gather the ears when in full milk, and strip off all but a thin covering of husk; lay these in a moderately heated oven or cooking stove, long enough to scald or stiffen the milk, when the grains are shaved off and kept in a close bag or canister. Boil in the usual way when wanted for use—thus treated the corn is said to be very fine.

SALES OF STOCK.—The Vermont Watchman states that A. L. BINGHAM, of West Cornwall, Addison Co., has made the following sales since the 10th of September, last:

293 bucks and ewes.....	\$35,127.50
Buck lambs sold.....	1,142.00
French sheep.....	7,033.00
11 cattle.....	705.00
10 horses and colts.....	1,185.00

Total sales.....\$45,192.50

He has on hand 375 French Merino sheep, 40 head of cattle and 9 horses.

Sore Shoulders in Horses.

In reply to an inquiry as to the best treatment for a horse of tender skin, whose shoulders get chafed by the collar from the shortest work, the editor of the N. Brit. Agriculturist gives some directions, of which the following is the sum and substance. He says, when a sore is actually formed in consequence of chafing by the collar, the horse should either be laid off work, or the collar stuffing should be removed so as to prevent pressure on the wound. A mixture containing half an ounce of sulphate of zinc to a quart of water should be continually applied by means of a soft rag saturated with the mixture and laid upon the sore. This plan of keeping the part constantly wet, tends to abate inflammation and soreness, and rapidly induces the healing process. If the horse cannot be allowed to rest, the collar must be eased as before directed, the sore well bathed with water, and then dressed with the above mixture before going to work, and on coming from it. If the skin be unbroken and merely tender or somewhat thickened, and perhaps rather knotty, a strong solution of common salt in water is a very excellent application. It may be applied by means of a rag saturated in the solution and laid upon the part affected. The same treatment is applicable to bruises by the saddle as well as to those by the collar; it being essential to the cure in both cases that the collar or saddle should be made to fit properly.

The strong solution of salt may do something towards toughening the skin where it is tender, and easily chafed or bruised, but we should expect a still better effect from a strong decoction of white oak bark, or a solution of tannin in water. By the application of either of these before the skin has actually become broken, or as soon as any signs of tenderness make their appearance, galls and sores from saddle or collar may usually be prevented. A few trials of the oak-bark decoction with a little alum, as well as the property it has to tan and toughen, incline us to expect more from it than from a solution of common salt.

Ayrshire Cattle.

MESSEES. EDITORS—In answer to an inquiry in the *Country Gentleman* of June 1st, page 345, by Mr. JAMES H. MATTISON, Oberlin, O., I would state briefly, that I consider the Ayrshire breed of cattle equal, if not superior, to any with which I have had experience; which includes Durhams, Devons, and others. If good dairy cows and working oxen, are what a person wishes, with a fair tendency to fatten, I claim that a man may obtain with more certainty, what he wishes, with them, than with any other one breed. Such is my opinion, confirmed by experience.

I will give an outline of a bull, which I procured of an importer of this breed of stock, three years since, and have now: Carcass, straight, well made and compact. Chest, deep, wide and full, denoting a good constitution. When standing, stands firmly on all four. Neck, tapers from the shoulder toward the head, free from all loose skin hanging under the jaws.

Horns, fine, where they start from the head, making a graceful curve, standing a little elevated from a horizontal line with the back. Head, fine, with a mild, pleasant and expressive eye. Constitution, strong; disposition, contented; skin, soft, firm, and well covered with a good thick coat of hair. Color, a light cherry red. Stock good, thrives well on ordinary keep; but does better on good keep.

Should your correspondent wish to get this, he can write me. CALVIN ALLYN. *Uncasville, Conn.*

O. C. D. informs us that Mr. MATTISON will find such a bull as he wants in the possession of E. DOUGLASS, Claridon, Geauga Co., O. He is a cross of the Devon and Durham.

Training Steers.

MR. TUCKER—My mode of breaking steers is first, to gentle them by feeding them from the hand, with short corn, roots, or even good hay. Secondly, I yoke them in a good yard, as gently as possible, leaving them to stand or walk about as they choose, for several hours, and then unyoke them, taking great care not to let them jump from the yoke, or become frightened at it. This should be done several times, before trying to drive them while in yoke at all. Thirdly, I use a halter, and short whip, and break each separately to walk beside the driver; and to turn to the right and left, by the motion of the whip, and sound of the voice. Patience and gentleness should be used at all times. If the steer be stubborn, by persuasive means he will soon subject himself to the will of the driver. After this I drive them together in the yoke, using a halter on the left hand steer, and a longer whip than before, without any draft at first; afterward with a light draft, such as they can pull without much effort, increasing the load as they become accustomed to use their strength. The halter may be dispensed with as soon as they learn the motions of the whip. They may be broke to work well to a harrow, lead of a team, &c. in one week, by spending 3 or 4 hours with them each day, in the above manner; after which they can be used to a cart, plow, or any thing desired.

I have broken steers which were four years old, (without ever having been handled at all, and which were so wild as to require stratagem to catch them with a rope,) to work well to a wagon in one week, by the above practice. M. S. BIDWELL. *Occoquan, Va.*

Cotswold Sheep.

MESSEES. EDITORS—I would state in regard to Sheep, that I have for some time been anxious to get a small flock of sheep of the right sort for family use, as well as something that might be profitable. I obtained in the month of April, 1853, two half bred Cotswold ewes. The May following they brought forth four lambs. At five months old, I sold one, of the same value of the others, for \$5. The first of the present month, I had an addition of four, (by the way twins are peculiar to this breed,) so the increase from April 53 to April 54, is seven, and sold one—all nice—five of

them having heavy, very heavy, fleeces on their backs of long medium but not coarse wool. It is my decided opinion that the Cotswold will be found to be the most profitable, for those who wish to stock their farms with sheep. L. GRISWOLD. *Milton, Ct.*

Warts on Cattle.

MESSRS. EDITORS—In the *Cultivator* for this month, you answer an inquirer about Warts on Cattle. Thinking it may be of some service, I cut out the enclosed slip from the *N. E. Farmer*, which I sent as the result of my experience in curing warts on cattle. GEORGE CRUIKSHANK. *Scampscot, April, 1824.*

TO CURE WARTS ON COWS.—In the *Farmer*, I noticed a subscriber answers my inquiry, "What will cure warts on the teats of cows?" My remedy is as follows: I tried walnut-shells on the shoulder of a cow, where the warts covered a place six inches square. I took the walnuts, cut the shells off, and pounded them (the shells) up so that I could press the juice out, and rubbed the warts with my hand and juice for about ten minutes every day for a week, when the warts began to be quite loose, so that you could pick them off easily. Before applying the juice, I rubbed the warts so as to take all off that I could; the last time I put on the juice, I rubbed the warts till the blood came; now the warts are all gone, and the place looks as if none had been there.

Having given this a fair trial, and found it to prove successful, I send you the result, for the information of all who read the *New England Farmer*, if you think it worthy of a place in your paper.

How to Build Cisterns.

MESSRS. EDITORS—In a late no. of your paper a subscriber wishes to know the most approved method of making cisterns. Our village has about 800 inhabitants, and we have about 50 cisterns, although the stream called Big Spring, passes the east end of our main street. The mode is simply this: Dig a hole in the ground from 6 to 9 feet deep, and 6 feet in diameter at the surface, and lessening as you go down, representing the large end of an egg as near as may be, only the bottom to be flat. If the ground is all clay, it can be dug so smooth and even all round that the brick may lay close against the bank, and a very little mortar will make them firm, so that the weight of water when full, will not allow them to give, and crack the cement. When the ground is rocky, and blasting has to be done in order to get the required depth, of course the pit will be irregular in its sides, and the brick work should be carried up, of the above shape, and either stone and lime mortar used for the backing, or clay pounded in behind the brick, just so firmly as to support them. The plan that is pursued is to lay three courses of brick, then mason or clay as high as the rise, or nearly so. The bottom is usually laid first. When within about two feet of the surface, commence to turn the arch, which is less of a job than would be thought until tried. In the centre of the arch is a box 30 by 18 inches, and from 12 to 14 deep, to put in the pump, clean when necessary, &c., &c.

The cost from 6 to 9 dollars for mason, and the cost of digging pit, sand, lime and from 1000 to 2000 brick according to size, in clay, 20 hhds. \$20—rock,

20 hhds. \$30—cement \$3,50 per barrel. Rosendale is used here. Any bricklayer can do the work; the brick laid in good lime and sand mortar, and when dried a few days, cement by mixing one-third clean sand washed, and two-thirds cement, to the consistency of plasterer's mortar, and but a little at a time, or it will set before it can be put on. If the brick work has got dry, it is best to wash it down, to remove the dust, so that the cement may adhere closely. The bricks ought to be hard and well burnt. Yours &c., WM. WOODBURN. *Newville, Cumberland Co. Penn.*

✂ We understand that Mr. C. D. BEUT of Hannibal, Oswego Co., has purchased from the herd of P. M. HARWOOD, Esq., Auburn, a Boar Pig, got by the imported Suffolk Boar which Mr. S. exhibited at the Ag. Soc'y's Show, in Feb. last. Mr. Beut has also lately bought a pig from Mr. C. D. Clark's sow, whose portrait we gave in a late no.

✂ B. V. FRENCH Esq., of Braintree, Mass., will please accept our thanks for copies of the "Agriculture of Massachusetts," "Proceedings of the Mass. Board of Agriculture for 1852," "Transactions of the Middlesex Ag. Society for 1853," and the programme of "the 6th annual Cattle Show and Fair of the Norfolk Ag. Society," to be held at Dedham on the 26th and 27th of Sept. next.

GREEN CO. FAIR.—This Fair is to be held at Catskill for the first time, this year, and the citizens of Catskill promise that it shall be one of the best ever held in the county.

GAME FOWLS.—In answer to an inquiry in our last No., we are informed that Mr. T. C. ABRAHAMS, of West Troy, N. Y., has all the varieties of this breed of poultry. Mr. A. promises us a description of his different varieties, several of which he has recently received from Europe, and among them are some from the Earl of Derby, received within the past three weeks.

Uncle Sam's Farm Fence,

BY A. D. MILNE,

WITH ILLUSTRATIONS BY N. ORR.

TO the man who has flesh in his heart, we say, "Read the book;" To the woman who is the mother of living children, we say with emphasis, "READ THE BOOK;" And to all who regard the moral dignity of man,—the purity of woman—the salvation and peace of poor suffering humanity, we again say, "READ UNCLE SAM'S FARM FENCE!"

This very popular Book was published *Wednesday, May 10th*, and the whole of the First Edition was sold before *Saturday Night!*

The *Second Edition* was published *Wednesday, May 17th*, and nearly all sold in *One Week!*

We have just issued

The Third Edition!

and are now able to supply all orders.

Price, 75 Cents, in neat cloth binding,

Sent by mail free of postage. For sale by Booksellers generally.

June 22—w3tm1t

B. SHEPARD & CO., Publishers.
152 Fulton-St., New-York.

Farmer Wanted.

THE subscriber wishes to employ a Farmer and his Wife, who can come well recommended as to capacity and moral character. I wish them without family, or of such an age as can be employed as help on my farm.

Address

E. D. HUNTER.

June 8—w4tm1t* New Rochelle, Westchester Co., N. Y.

Field Turnip and Beet Seeds.

THE following varieties of the very finest qualities and of either American or European growth; the latter being from the most reliable growers, and warranted not to be surpassed in quality by any other importations.

TURNIPS—Purple top Ruta Baga,	50	cents	per lb.
Skirving's Improved,	50	"	"
do do (Am. Seed),	75	"	"
Dale's Hybrid,	75	"	"
Yellow Aberdeen,	75	"	"
Large White Flat,	60	"	"
Large White Norfolk,	50	"	"
Improved White Strap Leaf, flat	75	"	"
Improved Red Top, flat,	75	"	"
English Rape, or Cole,	25	"	quart.
BEETS—White Silesia, or French Sugar,	50	"	lb.
Yellow German Sugar,	50	"	"
Long Red Mangel Wurtzel,	50	"	"
Yellow Globe,	50	"	"

with every desirable variety of Flower, Field and Vegetable Seeds, of the most approved qualities.

To Planters or Dealers requiring Beets or Turnips in large quantities a liberal discount will be made from the above prices.

J. M. THORBURN & CO.,
15 John st., New-York

May 25—w3m2t

Sweet Corn for Fodder.

STOWELL'S EVERGREEN, and the recently introduced OLD COLONY SWEET, are the best and by far the most productive varieties to sow broadcast or in drills, to cut for Green Fodder; the stalks, (nearly the whole of which are edible,) attaining a much larger growth, more profusely furnished with leaves, and being more nutritious than other sorts. May be sown as late as July with advantage.

Price, 25 cents a Quart, or \$5 per Bushel.

J. M. THORBURN & CO.,
15 John-st., New-York

May 25—w3m1t

Mower and Reaper.

Forbush's New Improved Combined Reaper and Mower.

THE above patent machine is now permanently established, and its entire success as a Combined Reaper and Mower proved beyond all doubt. This machine will be warranted to be made in a workmanlike manner and of the best materials, and capable of cutting from ten to fifteen acres of grass or grain per day, and in all respects to do the work as well and as easy for the horses as any other machine in the country.

Price of Combined Reaper and Mower,

" Mower,

For sale by LONGETT & GRIFFING,
No. 25 Cliff st., New-York.

April 6—w2ta&4tmay—m3t

Albany Agricultural Works,

Warehouse and Seed Store, 369 and 371 Broadway, Albany.

THE subscriber having purchased the stock in trade of the above works, is now prepared to furnish to order a full assortment of Farm Implements and Machines adapted to all sections of the country, both north and south, among which may be found—

"Emery's Patent Changeable Railroad Horse Powers."

Overshot Threshing Machines with Separators.

Mowing and Reaping Machines.

Grist-mills, Corn-shellers and Clover-hullers.

Circular and Cross-cut Saw-mills, adapted to the horse power, for cutting fire wood and fence stuff, with a full and complete assortment of FIELD AND GARDEN SEEDS and FERTILIZERS. For further particulars, full Catalogue will be sent on application by mail.

RICH'D H. PEASE,

March 30—w&mtf

Successor to Emery & Co.

Hallenbeck's Mowing Machine.

THE subscriber having perfected and tested his new and improved Mowing Machine, now offers it to the public for the coming season, confident that it will not fail to give perfect satisfaction. It is simple in construction, light of draft, and perfectly free from clogging. They are built at present for me by Deering & Dederick, corner of Bleecker and Franklin streets, Albany, N. Y. A large number will be made, and are offered to the public, warranted to operate well and to give satisfaction. Persons intending to buy mowing machines will find it to their advantage to examine mine before purchasing.

For further particulars, address the subscriber at Albany, N. Y.

MARTIN HALLENBECK.

Feb. 2—w&mtf

Great Sale of Ayrshire Cattle.

MR. ROBERT GRAY, Oak-Park, Fredericton New-Brunswick, will sell at auction on Friday, 21st July, 1854, at 11 o'clock forenoon, at his farm, his surplus stock of pure bred Ayrshire cattle, consisting of—

- 1 Two year old bull,
- 1 Three year old bull,
- 10 Heifer and bull calves,
- 6 Yearling heifers,
- 4 Two year old heifers,
- 12 Cows of various ages.

Mr. Gray came to this country from Ayrshire, five years ago, with a selected stock of choice Ayrshire cattle, from which the above have been bred. They will be found equal to anything that could be imported, and have the advantage of being acclimated. The bulls and young stock are descended from the celebrated bull "Jock the Laird," for which three hundred guineas were paid. All are warranted pure.

A proportion of each lot will be sold without reserve, and the whole if there is sufficient competition.

Catalogues with full pedigrees will be furnished previous to the sale.

April 27—w,nos.69,70,78,79,80,81—m2t

Prouty & Mears' Plow.

A LARGE assortment of these celebrated Plows can be found at the North River Agricultural Warehouse and Seed Store, 53 Cortlandt-street, New-York.

March 1—mtf

GEO. H. BARR & Co.

Cultivation of Tobacco.

A PRACTICAL TREATISE on growing Tobacco in the Northern States, just published. Price, \$25 cts.

E. H. BABCOCK & CO.,

May 4—m3t

Syracuse, N. Y.

Cider Mill and Press.

HICKOK'S CIDER MILL AND PRESS.—This mill and press is conceded, by all who have seen and used it, to be the best—simple in construction, portable, weighing 275 lbs., and not liable to get out of order. Warranted to work well, and give satisfaction. The first premiums of the American Institute and Crystal Palace have been awarded to this machine. Price, \$40. Drawings and descriptions will be sent by addressing the sole agents,

LONGETT & GRIFFING,

25 Cliff-street, New-York.

May 1—m5t—w2unM,Ju,J,A,&4tmS

Suffolk Pigs,

OF pure blood, for sale by B. V. FRENCH,
Feb. 1—mly Braintree, Mass

The People's Patent Office.

THIS well known establishment is still carried on under the personal superintendence of the undersigned, by whom all the necessary drawings, specifications, and documents, for Patents, Caveats, Designs, Foreign patents, &c., are prepared with the utmost fidelity and dispatch, on very moderate terms.

Persons wishing for advice relative to Patents or Inventions may at all times consult the undersigned without charge, either personally at his office, or by letter. To those living at a distance he would state, that all the needful steps necessary to secure a Patent, can be arranged by letter, just as well as if the party were present, and the expense of a journey be thus saved. When parties wish to be informed as to the probability of being enabled to obtain Patents, it will be necessary for them to forward by mail a rough outline sketch and description of the invention. No fee or charge is made for such examinations.

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Editor and Proprietor of the People's Journal.

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THE PEOPLE'S JOURNAL, a record of Science, Mechanics, Invention, and Agriculture Published Monthly. Every number contains 32 pages, beautifully printed on fine paper, and profusely illustrated with splendid engravings, forming at the end of every year two fine volumes, comprising nearly 400 pages, with about six hundred elegant engravings. Terms only ONE DOLLAR A YEAR, sent by mail. Specimen Copies 12½ cents. Address as above.

my11—w&m3m

North River Agricultural Warehouse and Seed Store.

No. 53 Cortlandt-street, New-York.

WHERE may be found a large and complete assortment of the best and latest improved Agricultural and Horticultural Implements, Field and Garden Seeds, Fruit and Ornamental Trees, Fertilizers of all kinds, &c., &c.
March 1—mtf

GEO. H. BARR & Co.

United States Agricultural Warehouse and Seedstore

No. 197 Water street, near Fulton street, New-York.

MERCHANTS, Planters and Farmers, in want of AGRICULTURAL and HORTICULTURAL IMPLEMENTS or SEEDS, for shipping, plantation, farm or garden purposes, will please call and examine our extensive and superior assortment of goods in the above line, unsurpassed by any other house in the United States, for finish, material and workmanship, and of the most approved patterns; all of which we will sell on as good terms as any other house in this city.

We have among our assortment the far-famed and unequalled EAGLE D. & F. PLOWS, warranted to draw lighter and do as good work in sod or stubble ground, as any other Plow to be found in the United States.

We also have the highest premium Sward Cutters, Fan Mills, Grain Mills, Premium Stalk Cutters, Horse Powers, Threshers and Separators of different kinds; Ketchum's celebrated Mowing Machine, unsurpassed; Hussey's Reaping Machine—also, McCormick's Cotton Gins, Cotton Presses, Hay and Hide Presses, Brick Machines, Harrows of all kinds, Sugar Mills for plantation use, Sugar Mills for grocer's use, Hand Store Trucks of all kinds, Mule Carts, Horse Carts, Farm Wagons, Wheel Barrows, Coal and Canal Barrows. In fact we have everything for shipping or using on plantation, arm or garden.

JOHN MAYHER & CO.

N. B. Guano, Bone Dust, Poudrette, Superphosphate of Lime, and other fertilisers.
Jan 1, 1853—m&wtf

Peruvian Guano.

WE are receiving our stock of Peruvian Guano for summer and fall supply, per ships Northern Crown, Lavanter and Antelope—are now prepared to supply all that may be in want of this valuable manure, and request early application. Price, \$55 per ton of 2,000 lbs. When taken in lots of Five Tons and upwards, a discount will be made.

There are various substances now offering in this market for Peruvian Guano. To avoid imposition, be particular to observe that the genuine Guano has branded on each bag.

No. 1. PERUVIAN GUANO,

Imported by F. Barreda Brothers—LONGETT & GRIFFING, State Agricultural Warehouse, No. 25 Cliff street, New-York. June 1—w&mtf

Manures.

PERUVIAN GUANO, Improved Superphosphate of Lime, Bone Dust, Bone Black, Sulphuric Acid, Potash, Poudrette, Plaster of Paris, Charcoal, &c., &c., for sale by
GEO. H. BARR & Co.,
March 1—mtf 53 Cortlandt-street, New-York.

Ground Bone.

THE subscribers are now prepared to furnish Bone Dust by the barrel or ton in its pure and most efficient state, ground to any desired fineness. GEO. H. BARR & Co.,
March 1—mtf 53 Cortlandt-street, New-York.

Fertilizers.

BEST Peruvian Guano—
Super-Phosphate of Lime, "DeBurg's No. 1"—
Poudrette, of the best quality—
Ground Plaster, suitable for agricultural purposes—
Ground Bone, Bone Dust, and Burnt Bone.
Also, Grass Seeds of reliable quality, at the lowest market price.
GEO. DAVENPORT, 5 Commercial,
Feb. 9, 1854—w&mtf cor. of Chatham st., Boston.

Bone Dust.

BONE SAWINGS, OR MEAL, a very superior article, warranted pure. Price, \$2.75 per barrel. Bone Dust, ground quite fine, \$2.37 per barrel.

We are prepared to supply all orders for this very superior manure. Samples will be sent if requested.

LONGETT & GRIFFING,

Ap. 20—m3tw2m No. 25 Cliff-st., near Fulton, New-York

Agricultural Books,

For sale at the office of the Country Gentleman.

J. & C. HOWARD,

MANUFACTURERS OF

CHURCH AND FANCY VANES,

West-Bridgewater, Mass.

A great variety of patterns manufactured, such as Horses, Oxen, Roosters, Plows, Cows, &c.

May 12—w4m2t

Albany Tile Works,

Corner of Patroon and Knox-Streets, Albany, N. Y.

DRAIN TILE of the following descriptions and prices suitable for land drainage, always on hand in large or small quantities of the first quality, delivered at the docks and railroad depots free of cartage:

Horse-Shoe Tile.

4 1/2 inch caliber,	\$18 per 1000 feet.
3 1/2 do	15 do
2 1/2 do	12 do

Sole Tile or Pipe.

3 inch caliber,	\$18 per 1000 feet.
2 do	12 do

Large Tile for drains about dwellings, yards, &c., of various sizes, \$4 and \$8 per 100 feet. Sole Tile, 4 inch calibre, for sink drains at \$4 per 100 feet. Drain your land and save your crops. Orders from a distance will receive prompt attention.

A. S. BABCOCK.

Albany, April 20, 1854—w&m6m

Appleton & Alderson's Drain Tile Works,

Corner of Lydius and Snipe streets, Albany, near Mr. Wilson's Nursery.

THE subscribers are prepared to furnish Drain Tile of the various and most approved Patterns, at from \$12 to \$18 per 1000 pieces. The Tile are more than 14 inches in length and a larger calibre than any of American manufacture for the same prices. We warrant every Tile to be perfectly sound, to fit good at the joints so as to admit water and keep out the dirt, and to drain Land from 12 to 20 feet on each side of the drain, according to the nature of the soil.

Also, large Tile for small brooks and drains about dwellings, &c. at from \$4 to \$8 per 100 pieces.

Tile delivered at the docks and railroads free of cartage. Specimens can be seen at Messrs. L. & W. MERCHANT'S, 71 Quay-st.

Full directions for laying Tile will be sent free to those addressing the subscribers. Orders are respectfully solicited.

Address, APPLETON & ALDERSON,
April 13—w&mtf 195 Washington-st, Albany, N. Y.

Super-Phosphate of Lime.

THIS celebrated fertilizer, where it has been fairly tested the last year, has been found equal, and in many cases superior to the best Peruvian guano, in its immediate effect, and much more permanently beneficial to the land. It is adapted to any soil in which there is a deficiency of phosphate, which is often the case. All crops are benefited by its application. It is composed of ground bones, decomposed by sulphuric acid, to which is added a due proportion of Peruvian guano, sulphate of ammonia, &c.

For sale, with full directions for use, in bags of 150 pounds each. No charge for package. All bags will be branded "C. B. DeBurg, No. 1 Super-Phosphate of Lime."

GEO. DAVENPORT, Agent for manufacturer,
5 Commercial, cor. of Chatham st., Boston.

Feb. 16, 1854—w&mtf

Imported Horse Consternation.

THIS well known, thorough bred horse will stand the present season, as heretofore, at the farm of the subscriber, one mile west of Syracuse. For full pedigree, see Derby and Miller's edition of Youatt. Terms, \$10 the season; \$15 to insure, payable in advance in all cases. Good pasturage furnished at 50 cents per week. Mares at risk of owners in all respects. No mare will be served that is either ring-boned, spavined or blind.

J. B. BURNET.

Syracuse, May 1, 1854—w2m—m3t

Devon Cows,

HEIFERS, and Bull Calves—pure blood—for sale by
Feb. 1—mly. B. V. FRENCH, Braintree, Mass.

Thomas Gould,

BREEDER OF DEVON CATTLE, Suffolk Swine, Madagascar or Lop-Eared Rabbits, and choice and fancy Poultry, Aurora, Cayuga county, N. Y. Mar. 23—w&mtf

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English Cattle.

TO Agricultural Societies and others requiring the best bred Cattle from England, embracing Pure-Blood Horses, Short-Horns, North Devons, Herefords, Ayrshire and Alderney Cows.

Also, Pure-Bred South Down, Cotswold, and Leicester Sheep.

Also, Suffolk, Essex and Berkshire Swine—Imported on commission into any part of the United States and Canada, by

Messrs. THOS. BETTS & BROTHERS, of Herts, Eng. Every information with regard to terms and shipment of Stock to America, will be strictly attended to by applying to JAMES M. MILLER, 81 Maiden Lane, New-York City, who is fully authorized to act as our Agent.

JAMES M. MILLER. THOS. BETTS & BROS.
Agent, New-York City. Herts, England.
July 1—mtf

Land for Sale.

THE subscriber offers for sale, a portion of his valuable Tract of Land, situated in the county of Fairfax, Virginia, on, and near the Turnpike leading from Georgetown to Leesburgh, 16 miles from the city of Washington, 2 miles from the Potomac river and canal, and within 2 miles of the Loudoun, Alexandria, and Hampshire Rail Road. The tract contains about 2000 acres of Land; of which, from 500 to 600 are in a heavy growth of oak and chestnut, and the remainder of the wood land is in pines of the second growth. It is of a deep red soil, and adapted to Grain, Plaster, Clover, and all kinds of Grass. On the premises are 4 comfortable Dwelling-Houses, and also a Grist-Mill, but not in running order. The land will be sold in lots of 100 or 200 acres, or as the purchaser may desire. For further particulars inquire of the subscriber on the premises.

S. S. MILLER,
July 1, 1854—mtf Spring-Vale, Fairfax Co., Va.

THE COUNTRY GENTLEMAN.

A Journal for the Farm, the Garden, and Fireside.

THE COUNTRY GENTLEMAN has now been published 18 months, making three large and beautiful quarto volumes of 416 pages; and the gratification with which it has been received by the public, and the liberal circulation already extended to it, show that its general plan and object have met with the hearty approbation of those whose interests and improvement it was intended to promote. It combines in one large sheet, an AGRICULTURAL, HORTICULTURAL and FAMILY JOURNAL, furnishing, besides its large amount of practical matter on Rural Affairs, in its FIRESIDE DEPARTMENT, a choice collection of articles peculiarly adapted to interest and exalt the views and aims of the FAMILY CIRCLE, together with a careful digest of the NEWS OF THE WEEK, and a full report of the PRODUCE and CATTLE MARKETS; and it will be the constant aim of the publisher to make it indispensable to the Farmer, and desirable to every one who has a rod of ground to cultivate, or a home to beautify—and by devoting its columns to IMPROVEMENT IN AGRICULTURE, ELEVATION IN CHARACTER, and REFINEMENT IN TASTE, to render THE COUNTRY GENTLEMAN the standard in its sphere.

It is illustrated with superior engravings of Houses, Farm Buildings, Domestic Animals, Implements, Fruits, Flowers, &c., and printed in a neat and attractive style, forming two handsome quarto vols. of 416 pages each, per year.

TERMS.—Two Dollars per year, and Three copies for \$5. Six copies will be sent six months for \$5; the money in all cases to be remitted in advance.

A new vol. (the 4th,) commences the 1st of July, 1854.

THE CULTIVATOR, which has now been published for twenty years, is still continued by the subscriber, and is too well known in every part of the Union to need commendation. It is believed that it is not too much to say that it has always enjoyed the reputation of ranking as the first of our monthly rural journals. It is now published at FIFTY CENTS a year, and to Clubs of eight or more, at 37½ cents.

All letters to be addressed to LUTHER TUCKER, Ed. Co. Gent. and Cultivator, Albany, N. Y.

CREDENTIALS OF THE COUNTRY GENTLEMAN.

A gentleman in Massachusetts, distinguished for his scientific attainments and his practical skill as an agriculturist, writes us: "I cannot close without expressing the gratification I feel in reading the *Country Gentleman* from week to week. If the hearty approbation of a single reader is of any worth to you, you have mine most heartily, I assure you."—Another, in sending in his subscription, says: "I cannot refrain from expressing to you the great satisfaction I have had in reading the *Country Gentleman*. I consider it the most valuable family paper for the farmer that I know of."—From a gentleman in Western New-York: "I consider the *Country Gentleman* the BEST paper for our farmers I have yet seen."—A subscriber at Pittsburgh, Pa., says: "I read the *Country Gentleman* with much pleasure and profit; and I think there is but one sentiment among its numerous readers, and that is, that it is the leading agricultural periodical of our country, useful and practical."—A subscriber in Tennessee writes as follows: "I confess my admiration of your weekly journal, the *Country Gentleman*—this beau ideal of the denizen of the soil."—From a subscriber in Dutchess county: "I have taken the *Country Gentleman* since it was first published, and I think it the best agricultural paper I ever took, if not the best published in the land."—From a subscriber in Ohio: "Let me say to you, that I think the *Country Gentleman* decidedly the best agricultural paper in the country, and I have seen and read many, for their name is legion."—From another subscriber in Ohio: "I value the *Country Gentleman* as the best of sixteen agricultural papers which I take."—The Hudson Gazette pronounces it "decidedly the best agricultural publication in the country."—The Winsted Herald says: "On all matters pertaining to the occupation of the Farmer and the Horticulturist, as well as to Domestic Architecture and the country Fireside, it is without a rival."

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A MONTHLY JOURNAL OF

Agriculture, Horticulture, and Domestic Economy.

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All subscriptions must commence with the January No and the payments must in all cases accompany the order for the paper.

LUTHER TUCKER,
Publisher, Albany, N. Y.